Acting Director of Agriculture, Fisheries and Forestry

Hong Kong

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ANNUAL DEPARTMENTAL REPORT

BY THE

ACTING DIRECTOR

OF

AGRICULTURE, FISHERIES & FORESTRY

FOR THE

FINANCIAL YEAR 1955 - 56

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Note:—The weights and measures used in this report are:

4.8 mows	= 1 acre
6 dou chung	= 1 acre
1 picul	= 133 lbs.
1 catty	= 1.33 lbs.
1 tael	= 1.33 oz.

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PART 1

GENERAL SURVEY

The organization of the Department of Agriculture, Fisheries & Forestry remains the same as in the previous year with four divisions of agriculture, animal industry, fisheries and forestry, each headed by a professional officer who is responsible to the Director for the execution of approved policies.

2. A detailed review of the activities of each of the divisions is given in this report together with statements of specific policies. The broad policy of the Department as a whole is simply expressed as an effort to develop and conserve the limited plant and animal resources of the Colony.

Agriculture

3. In comparing the scope offered by the larger areas of Africa and other Territories to that in Hong Kong, it must be remembered that there are in all only about 35,000 acres of cultivated land out of the total area of 391 square miles, the nature of the terrain being the limiting factor. The great majority of farmers in this Colony would be classified as smallholders in Europe since their average holdings scarcely exceed two acres.

4. Development is therefore more on the side of improved techniques than on extension of land utilization. The organized control of plant and animal diseases and pests as well as improvements in water and soil conservation are the general lines on which an attempt has been made to implement the general policy.

5. Great assistance has been given by the creation of an interest free loan fund—the Kadoorie Agricultural Aid Loan Fund —which enables many individual farmers to apply the teachings of the Department to practical effect by short and medium term

borrowing of the necessary working capital. Similarly the generosity of Messrs. L. and H. Kadoorie in making outright gifts for the construction of capital works such as dams and bridges, irrigation channels and sea walls has aided immeasurably the lot of the Hong Kong farming community.

6. Economically the Hong Kong farmer is not particularly well placed. The advantage of being on top of a large consumer market is outweighed to some extent by the close proximity of the vast China Mainland. Farm produce of all kinds, particularly livestock, pours into Hong Kong daily and prices are so linked with the volume of such produce that the margin of profit available to the local producer is generally small, occasionally non-existent and very rarely generous. For this reason there is a constant trend towards exportable processed crops and products—for example water chestnuts and preserved ducks—which command a market abroad but which are speculative in character.

Fisheries

7. Fish forms a large part of the diet of Hong Kong's $2\frac{1}{4}$ million inhabitants but in this case the Colony's fishermen are not faced with competition so much as lack of fish in the inshore waters. The Fisheries Division is trying to get more fishermen to go further afield for their catches and this in turn means more mechanization of the vessels, improved fishing techniques, and the adoption of modern aids to safe navigation in waters notorious for sudden adverse weather conditions. The inherent fear of the typhoon keeps the fishermen near to the shore and he will be slow to adopt and rely on new equipment which could enable him to go far from his base.

8. In furtherance of the broad policy of aid to the primary producer, the Fisheries Division has access to the professional advice of the Fisheries Research Unit of the Hong Kong University and the fishing industry as a whole is benefited by the operations of the Government sponsored Fish Marketing Organization.

Forestry

9. Approximately 70 to 80,000 acres of hillside land are suitable for afforestation which in fact is the main form of land utilization in the Colony. During the year some 600 acres were planted and the main feature in this period was the completion of the new nursery at Fanling. This covers an area of 23 acres and has now started towards its goal of 5 million seedlings per year so as to step up the rate of afforestation.

Animal Industry

10. In the field of animal industry the highlight of the year was the visit of the F.A.O. veterinarian and poultry disease specialist, Dr. J. E. Lancaster, and consequent upon this visit the extended use of both the "F" strain vaccine against Newcastle disease of poultry and the Hudson lapinised swine fever vaccine. There is no doubt that the complete control or eradication of these two diseases would be of the greatest advantage to the Colony's livestock industry. In the case of the specialist farmer, it may well mean the difference between success or failure. It is therefore noteworthy that the Hong Kong Government is considering the establishment of a laboratory for the large scale production of these two vaccines at prices well within reach of all livestock owners. The successful operation of this project could constitute the greatest single benefit to the industry outweighing in importance any other which the Department could provide.

11. Another feature has been the successful establishment of the veterinary laboratory at the main agricultural station at Castle Peak. This now provides a much wanted diagnostic service to the livestock industry. The hit or miss methods adopted by the average farmer in the diagnosis and treatment of the diseases of his livestock are gradually being supplanted by an up-to-date professional service.

Animal Husbandry

12. Pigs and poultry are the only livestock reared specifically for meat. Cattle and buffaloes are kept first and foremost as draught animals to work in the fields. It is only

the normal wastage of the old and the surplus which find their way to the slaughter-houses. The type of animal is ideally suited for the work required of it being small, strong and hardy. No attempt has been made to introduce new improved stock and it is not considered necessary to do so.

13. In the case of pigs the Department is attempting to improve the local Chinese animal by selective and line breeding for there is no doubt that this type of animal is best suited to average village conditions. The specialist pig rearer prefers in many cases the European breeds, particularly Berkshire and Large Whites. These animals grow faster and their carcases command a better price in the market. There are, however, serious drawbacks to haphazard breeding of foreign type stock. Without the regular introduction of fresh blood, exotic breeds tend to degenerate in a few years. Cross breeding if it is not properly carried out can also produce a heterogeneous mixture of stock which may loose the desirable characteristic of both breeds.

14. In the case of poultry it is felt that the specialist farmer can look after himself in regard to the quality of his stock. Air freight brings the day old chick to Hong Kong from the main poultry breeding areas of the world and the egg producer can easily obtain his requirements of improved strains.

15. With table poultry the consumer market demands the South China bird exclusively and the broiler industry obtains its stock from local hatcheries. It is computed that between 4 and 5 million eggs imported from the Mainland are hatched annually. This industry is therefore by no means inconsiderable. In most cases birds are reared to reach marketable size so as to coincide with festivals when prices are highest.

16. The Department is more concerned with disease control than with poultry husbandry although some experimental work is in progress and the extension officers are always alert to the expansion of the industry amongst non-specialist peasant farmers.

17. The year 1955/56 has, on the whole, been a succesful one for the farmer and fisherman and the results obtained by departmental activities have been satisfactory. There is a great deal more to be done especially in the spheres of extension work, control of pests and diseases and general research including a general survey of the soils of the Colony. The Department can take some satisfaction in its achievements to date and can look forward confidently to progress in the future.

STAFF MOVEMENTS

18. Mr. W. D. Orchard was appointed Fisheries Officer in July, 1955.

Two posts of Fisheries Supervisors Cl. II, one Laboratory Technician and two temporary clerks were additions to the establishment during the year.

Two overseers were appointed during the year for the supervision of two private slaughter-houses at Taipo and Yuen Long in the New Territories.

Two G.C.S. clerks were transferred from the Treasury Department in connexion with the Kadoorie Agricultural Aid Loan Fund which was administrated by the Director of this Department as Trustee.

The title of Superintendent of Agriculture and Animal Husbandry was changed to Agricultural Officer as from 1st April, 1956.

Lt. Col. J. C. Rix, T.D., Senior Veterinary Officer, visited Thailand in May, 1955 to attend a conference with F.A.O. experts on Rinderpest, Foot and Mouth disease and also to advise the Thai Government on certain aspects of their export cattle trade.

Mr. W. D. Orchard, Fisheries Officer, attended the Indo-Pacific Fisheries Council Conference in Japan during September/October, 1955.

Mr. A. F. Robertson, Forestry Officer, attended the Asia-Pacific Forestry Conference in Japan during April/May, 1955.

Mr. Yu Yat Sum, Assistant Fisheries Officer, attended a 6-week course at the F.A.O. International Inland Fisheries Training Centre in Indonesia during October/December, 1955.

Mr. A. F. Robertson, Forestry Officer, visited Macau to advise the Government there on the possibilities of afforestation in Macau in July, 1955.

Mr. P. L. Siak, Agricultural Supervisor, left the Colony for post-graduate studies in the Imperial College of Tropical Agriculture, Trinidad, in September, 1955.

Mr. P. Kennedy, Forestry Supervisor, returned from a year's training course with the New Zealand Forestry Service in July, 1955.

Mr. N. F. Wright, M.B.E., Agricultural Officer, left the Colony for vacation leave in July, 1955.

Mr. R. J. V. Everest, Senior Forestry Supervisor, returned to the Colony from vacation leave in December, 1955.

Mr. A. F. Robertson, Forestry Officer, left the Colony for vacation leave in February, 1956.

VISITORS TO THE DEPARTMENT

19. The following individuals or groups visited the Department during the year for discussions with officers. Several of the visitors were taken on conducted tour over the departmental agricultural, fisheries or forestry out-stations: —

The Right Honourable Alan Lennox-Boyd, M.P., Secretary of State for the Colonies.

Dr. G. F. Hickling, C.M.G., Fisheries Adviser to the Secretary of State for the Colonies.

Lord Buckinghamshire.

Dr. J. E. Lancaster, Poultry Disease Expert, F.A.O.

Mr. F. E. Popper, Chief of the Economics and Statistics Branch, Fisheries Division, F.A.O.

Mr. Jan-Olof Traung, Chief of Fishing Boat Section, Technology Branch, F.A.O.

Dr. C. Miles, Indo-Pacific Fisheries Council, F.A.O.

Mr. T. J. Job, Assistant Fisheries Officer for Asia and the Far East, F.A.O.

Mr. M. Leloup, Director of Forestry Division, Food and Agriculture Organization, Rome.

Mr. C. Purkayastha, Chief, Forestry Working Group for Asia and the Pacific, F.A.O., Bangkok.

Dr. Wylie D. Goodsell, Agricultural Economist, U.S. Department of Agriculture.

Mr. C. E. Pike, Foreign Agricultural Services, U.S. Department of Agriculture, Washington.

Mr. Robert D. Yoder, Vice Consul, U.S. Foreign Service.

Mr. John L. Farley, Director of Fish and Wild Life Service, U.S.A.

Mr. George A. Hays and Mr. Welbur H. Youngman, Department of Agriculture, U.S.A.

Mr. Boon Indrambarya, Director General of Fisheries, Thailand.

Mr. Umpol Pongsuwana, Fisheries Officer, Department of Fisheries, Thailand.

Mr. Pairojana Lipikorn, Head of Fish Culture Extension Section, Department of Fisheries, Thailand.

Dr. Jose Vidigal, Municipal Veterinary Surgeon, Macau.

Mr. Eric R. Bevington, Commissioner of Development, Brunei.

Mr. Jordan Walker, Assistant Director of Agriculture, Guam Islands.

Dr. Tham Ah Kaw, Fisheries Officer, Singapore.

Mr. C. O. Flemmich, Forestry Officer, Singapore.

Mr. D. S. P. Noakes, Deputy Director of Forestry, Federation of Malaya.

Mr. G. H. S. Wood, Forestry Officer, North Borneo.

Dr. J. Hancock, Agricultural Adviser, World Bank.

Mr. Ralph N. Gleason, Head of Food and Fertilizer Division, Sino-American Joint Commission on Rural Reconstruction, Taiwan.

Mr. H. H. Martin, Pest Control Department, J.R. Geigy S.A., Basle, Switzerland.

Mr. Richard B. Ouer, Sprayer Chemical Corporation, California.

Mr. T. J. Roberts, West Pakistan.

A party of four Future Farmers of America from Korea.

Mr. Charles C. Larson, Forestry Policy, Administration and Economics, State University of New York, College of Forestry Syracuse 10, N.Y., U.S.A.

Mr. & Mrs. David T. Mason of Mason & Bruce, Consulting Foresters, American Bank Building, Portland, Oregon.

H. E. the Governor visited the Department's establishments on 9th June, 1955 and again on 15th March, 1956.

The Colonial Secretary visited the Department's establishments on 27th February, 1956.

PART 2

AGRICULTURAL DIVISION

Agricultural Officer: Mr. N. F. Wright, M.B.E.

General Conditions

20. The absence of typhoons and frost and a rainfall of 2226.3 mm., although rather unevenly distributed, made growing conditions for most crops more favourable than during the 1954/55 season.

21. It will be remembered that during 1954 55 typhoon weather occurring late in the season seriously damaged seedlings and young vegetable plants and a late frost destroyed sweet potato, tomato, bringal and other crops.

22. Meteorological data, submitted by courtesy of the Royal Observatory, is set out in Table I.

TABLE I

Weather Records

Month	Temperature			Mean Relative Humidity	Mean Cloudiness	Wind Prevailing Direction Point	Wind Velocity Mean	Total Rainfall in mm. 1954-55	Total Rainfall in mm. 1955-56	Total Sunshine hours 1954-55	Total Sunshine hours 1955-56
	Mean Max. °F.	Mean °F.	Mean Min. °F.								
1955											
April...	76.5	71.4	66.9	80	62	E	9.3	156.1	173.6	69.5	174.4
May ...	83.7	78.7	74.7	83	72	ESE	8.0	78.9	440.9	221.4	169.4
June...	85.2	80.8	77.0	85	78	ESE	9.1	218.6	293.9	159.2	136.9
July ...	86.8	81.8	77.5	86	79	SSW	6.8	157.7	619.0	253.8	159.9
August	87.4	81.7	77.0	85	66	ESE	4.7	265.4	547.9	206.4	207.9
Sept. ..	88.7	82.5	77.9	82	46	E	6.5	223.3	142.8	218.2	252.7
Oct. ...	82.3	76.1	71.7	68	29	E	11.2	24.7	6.2	256.4	289.2
Nov. ..	73.7	67.5	62.2	63	50	ENE	11.6	113.0	45.4	212.8	181.0
Dec. ...	69.9	64.0	59.3	70	33	ENE	10.8	1.0	24.1	149.8	228.7
1956											
Jan. ...	64.5	59.8	56.1	75	64	E	7.3	3.7	31.9	210.3	145.2
Feb. ...	63.5	59.1	55.6	79	75	E	8.4	0.1	44.6	147.4	98.1
March.	67.5	63.3	59.9	83	82	E	9.1	52.6	72.6	121.1	95.0
						Total		1,295.1	2,442.9	2,226.3	2,138.4

Brief Survey of Industries

A. *Rice*

23. The area under rice during the 1955/56 season was estimated to be 23,352.79 acres, made up as follows:—

(i)	Land yielding 2 crops per annum	20,191.97 acres
(ii)	Upland paddy 1 crop per annum	248.07 „
(iii)	Brackish water paddy 1 crop per annum ...	2,912.15 „
	Total	23,352.19 acres

The total yield from the 23,352.79 acres of land is estimated to be 28,071 metric tons of paddy, which, is the equivalent of 19,088 metric tons of milled rice.

24. More detailed figures of the amount of land producing rice and the average yield in each of the districts in the Colony are set out in Table II.

25. Damage by rice stem borers (Schoenobius incertellus W.) was the main reason for the very low first crop yield. Blast disease caused considerable damage to paddy in the Lantao and Taipo areas. The quality of the 2nd crop paddy was good and was marketed at from $37 to $40 per picul.

B. *Vegetables*

26. Tsuen Wan, which was once the principal vegetable producing area in the Colony, is rapidly being converted into an industrial area. Large areas of what was once agricultural land are now built on and many of the people who cultivated this land are now working in the factories. The decrease in the production of vegetables in this area, as compared with last year, amounts to 880 metric tons.

27. Fanling has become the main vegetable producing area. The total production from this district during the 1955/56 season amounted to 21,338 metric tons, which is 7,955 tons more than last year's production. A greater understanding of rotation, fertilizer application and use of insecticides is the principal reason for increased yields.

TABLE II

Paddy Production In The Colony—1955

District	Upland Paddy			1st Crop Paddy			2nd Crop Paddy			Brackish Water Paddy		
	Area acres	Av. yield per D. C. picul	Yield piculs	Area acres	Av. yield per D. C. picul	Yield piculs	Area acres	Av. yield per D. C. picul	Yield piculs	Area acres	Av. yield per D. C. picul	Yield piculs
Shatin	5.53	1.2	39.81	746.32	1.5	6,716.88	746.32	2.0	8,955.84	10.75	1.2	77.40
Taipo & Saikung (N.)	12.79	1.2	92.09	2,363.75	1.5	21,273.75	2,363.75	2.0	28,365.00	—	—	—
Sheung Shui	126.79	1.2	912.88	4,433.30	2.0	53,199.60	4,433.30	2.5	66,499.50	74.24	1.5	668.16
Shataukok	74.08	1.0	444.48	1,181.32	1.5	10,631.86	1,181.32	2.0	14,175.85	128.60	1.5	1,157.40
Kam Tin & San Tin	13.68	1.0	82.08	3,788.52	1.5	34,096.68	3,788.52	2.0	45,462.24	1,309.36	1.0	7,856.16
Castle Peak	—	—	—	5,012.17	1.5	45,109.53	5,012.17	2.0	60,146.04	1,365.47	2.0	16,385.46
Tsuen Wan	4.36	1.0	26.16	137.05	2.0	1,644.60	137.05	2.5	2,055.75	—	—	—
Saikung (S.)	3.80	1.0	22.80	1,112.95	.5	3,338.85	1,112.95	1.0	6,677.70	18.88	1.0	113.28
Lantao Island	—	—	—	1,163.37	1.0	6,980.22	1,163.37	1.5	10,470.33	2.73	1.5	24.57
Other islands	7.64	1.0	45.84	253.22	1.0	1,519.32	253.22	1.5	2,278.98	2.12	1.5	19.08
Total	248.07		1,666.14	20,191.97		184,511.29	20,191.97		245,087.23	2,912.15		26,301.51

28. Next in importance as a vegetable producing area, is Sheung Shui. Many refugees have settled in this area recently. Living in wooden huts which they have erected along the railway line and on the hillsides near San Tin; most of these people have taken to growing vegetables; the result has been an increase of over 2,000 tons over last year's total.

29. In recent years the main crop grown in the Castle Peak area has been Mui Choy but owing to a drop in the price of this vegetable, the acreage grown this year was very much less than that of last season. Consequently 237 tons less vegetables were grown this year.

30. In general the 1955/56 season was considered to be a good one for vegetable growing in the Colony. The total increase in production over that of last year amounted to 10,553.7 metric tons. The main factors which contributed to this increase in production were:—

(*a*) Favourable weather conditions, good and fairly well distributed rainfall, which amounted to 2226.3 mm.

(*b*) Increased acreage due to the opening up of more land.

(*c*) Improved cultural methods, including a better understanding of balanced fertilizer application.

(*d*) Reduction of losses from insects and pests by correct and more systematic use and application of insecticides.

31. A list of the kinds and weight of vegetables grown locally is as follows:—

TABLE III

Vegetable Production in N.T. 1955 - 56

		Catties	*Metric Tons*
1.	Cabbage, flowering	9,048,038	5,473.71
2.	Cabbage, white	32,641,498¾	19,746.82
3.	Cabbage, leaf mustard	7,687,605¾	4,650.70
4.	Chinese kale	4,192,161½	2,536.09
5.	Sweet potato	1,433,407	867.15

TABLE III—*Contd.*

Vegetable Production in N.T. 1955 - 56—*Contd.*

		Catties	*Metric Tons*
6.	Tomato	3,967,216¼	2,400.01
7.	Water cress	3,044,767	1,841.96
8.	Onion, spring	2,414,785¼	1,460.85
9.	Turnips	8,683,466¾	5,253.16
10.	Lettuce	4,963,694½	3,002.84
11.	Spinach, Chinese	833,871¾	504.46
12.	Spinach	2,124,541¼	1,285.27
13.	Spinach, water	3,570,535¾	2,160.03
14.	Chives	1,974,254	1,194.35
15.	Bringal	1,115,307¼	674.72
16.	Cucumber	1,808,620¼	1,094.15
17.	Bean, string	1,920,473	1,161.81
18.	Yam bean	851,100	514.88
19.	Taro	426,677¼	258.12
20.	Misc.	26,886,333¼	16,265.17
	Local total	119,588,344½	72,346.25

32. A detailed list of the weight of vegetables grown and marketed from each of the vegetable producing districts in the Colony is as follows:—

TABLE IV

Vegetable Production

District	*Weight in catties*	*Vegetable sold for H.K. $*
Kowloon	6,057,524¾	1,556,386.46
Sha Tin	631,206¾	96,214.06
Taipo	8,506,870	1,843,022.03
Fanling	35,847,941½	5,609,933.78
Sheung Shui	17,331,004½	3,023,662.95
San Tin	8,080,445¼	1,201,383.63
Yuen Long	12,326,210½	1,823,559.07
Kam Tin	7,651,476	1,042,230.52
Castle Peak	17,749,445¾	2,676,273.18
Tsuen Wan	5,406,219½	1,127,972.10
Local total	119,588,344½	$20,000,638.28
Imported total	11,030,569	2,085,838.68
Grand total	130,618,913½	22,086,476.91

33. The total quantity of vegetables imported and sold during 1955/56, amounted to 11,030,569 catties. The market value of these vegetables was H.K.$2,085,838.68. The total weight of imported and locally grown vegetables marketed during 1955/56 amounted to 130,618,913.5 catties. The market value of these vegetables was H.K.$22,086,476.96.

34. Although the production of vegetables was considered very good, the marketing of these vegetables was not so successful. Owing to the abundance grown locally and the quantity of vegetables sent in from China, prices fell and remained low for a considerable time. Radishes, in particular were overproduced and were often difficult to dispose of for as low a price as cents 50 per picul.

Vegetable seed production

35. The production of vegetable seed is growing in popularity amongst farmers. In view of the uncertainty of steady prices for fresh vegetables, this is considered "a step in the right direction", as there is an increasing demand for seed, particularly of the Chinese types of vegetables. The types most favoured are Radish (summer), Chinese Kale, White Cabbage, Leaf Mustard, Garland Chrysanthemum, Chinese flowering cabbage and celery. All of these varieties seed readily in this climate and can be prduced in quantity. There is a demand for good fresh seed in the Colony and inquiries for seed of Chinese vegetables are continuously being received from other countries. Good seed is at present scarce and prices are high.

Export crops

36. (i) *Water Chestnuts.* Approximately 204 acres were planted to this crop, as compared with 108 acres in the previous season. Chestnuts are a crop on which farmers are inclined to take a gamble, as good prices can be obtained in the United States for a limited quantity of good quality nuts.

37. (ii) *Ginger.* The area under ginger was 42.5 acres and the total estimated yield 408 tons. The crop was free from disease and of good quality.

38. (iii) *Chinese Turnips.* The two varieties of turnip grown locally are known as "Tai Tau Tsoi" and "Chai Tsoi". From the 46.5 acres planted 717 tons of turnips were harvested. The demand on the U.S. market was not very great and local growers had rather a lean time.

39. (iv) *White cabbage.* Easily the most popular vegetable grown in the Colony. A limited quantity of white cabbage in the dry form was exported to the United States.

40. (v) *Miscellaneous crops.* There are a number of other crops, such as, Radish, Yams, Mustard, Arrow-head, and Lotus roots which are grown locally and exported in small quantities to the United States.

41. (vi) *Fruit.* Lychees, fresh for local consumption and canned or dried for export are always in demand. Local production from about 9,000 bearing trees, is roughly 670 tons of fresh fruit per annum.

42. The total weight of agricultural produce (vegetables and fruit) for which comprehensive certificates of origin were issued, amounted to 1,625 metric tons. Details of these crops are summarized at Table V.

TABLE V

Export Crops to U.S.A.

No.	Crops	No. of growers	Acreage in D. C. or No. of trees	Estimated yield in piculs	Amount exported in piculs	Average unit value per piculs $	Estimated total value for export $
1.	Vegetable seeds	91	1,272.42	1,302.47	—	—	—
2.	White cucumber	11	129.45	3,850.30	1,409.13	15	21,136.95
3.	Bitter cucumber	12	98.28	1,953.14	82.90	34	2,816.6
4.	Mushroom	9	5.91	88.65	—	—	—
5.	Taro	19	100.25	2,850.29	1,491.46	38	56,675.48
6.	Ginger	40	256.39	6,866.79	4,342.24	26	112,898.24
7.	Lotus roots	16	75.38	2,916.02	1,668.35	40	66,734.00
8.	Yam	12	64.04	1,233.54	1,059.88	40	42,395.20
9.	White cabbage	17	161.39	7,647.49	4,797.63	14	67,166.82
10.	Radish	8	33.24	2,336.72	773.45	15	11,601.75
11.	Turnip	48	280.80	12,039.05	4,349.14	23	100,029.22
12.	Mustard	13	122.19	5,551.76	1,543.19	20	30,863.80
13.	Water chestnut	68	1,223.89	66,403.95	29,118.23	40	1,164,729.02
14.	Arrow-head	13	101.40	2,262.00	1,264.71	48	60,706.08
	Total	365	3,741.04 D. C. or 623¼ acres.	12,683.45 pic. or 778 metric tons	51,900.11 pic. or 309 metric tons		1,737,753.34

TABLE V—*Contd.*

Export Crops to U.S.A.—*Contd.*

No.	Crops	No. of growers	Acreage in D. C. or No. of trees	Estimated yield in piculs	Amount exported in piculs	Average unit value per picul $	Estimated total value for export $
	Fruit		*No. of trees*				
15.	Lychee	84	8,957	11,164.73	9,837.28	40	393,491.20
16.	Lemon	12	4,663	852.92	842.14	50	42,107.00
17.	Wong Pei	16	2,378	1,086.01	748.62	70	52,403.40
18.	Japanese apricot	14	1,863	735.55	373.65	60	22,419.00
	Total	126	17,861	13,839.21 or 849 metric tons	11,801.60 or 724 metric tons		510,420.60

Grand total $2,248,173.94

The total value of exported and processed vegetables and fruit was $2,248,173.94.

Land Utilization

43. The total land area of the Colony of Hong Kong is 396 square miles, or, 253,440 acres of which 12.9% is under cultivation. About 95% of the arable land lies below the 50 metre contour.

44. About 73.4% of the land is covered with grass and small shrubs, and 8,100 acres or 3.2% is woodland of which two to three thousand acres are established Government plantations, preponderantly pines (Pinus Massoniana) and gums (Eucalyphus Robusta). The bare and eroded land amounts to about 4.2% or 11,500 acres and the marshland and mangrove areas about 1.7% or 4,300 acres.

45. All land is held on Crown lease, old leases are now virtually "free hold". New leases, *i.e.* land taken up since the formation of the New Territories, is obtained by the granting of Crown leases, by means of public auction. The temporary occupation of land may be granted for a period of not more than one year. Permits are renewable annually. Land so occupied for ten years, by custom, but not by right, may be bought without being submitted to public auction.

Fertilizer & Manurial Trials (Rice)

46. For the third year in succession a trial was carried out to endeavour to find out the most suitable quantity of N.P.K. (a standard mixed fertilizer), required by rice crops in this Colony. The treatments tried were as follows:—

Fertilizer	Rate of application lbs. per acre				
N	Nil	15	30	45	60
	N_1	N_2	N_3	N_4	N_5
P_2O_5	P_1	P_2	P_3	P_4	P_5
K_2O	K_1	K_2	K_3	K_4	K_5

N_s ..... N 40 lbs. per acre
P_s ..... P_2O_5 50 lbs. per acre
K_s ..... K_2O 30 lbs. per acre

as with the trials carried out in the two previous years the results indicate that paddy gives a marked response to nitrogen. Yields increase as the rate of application of nitrogen is increased from nil to 60 lbs. per acre. There was no indication of any distinct response to P_2O_5 and K_2O treatments applied at different levels.

Application of Fertilizer

47. For the second year in succession a trial was made to find out which of the following methods of fertilizer application to paddy crops was best:—

(*a*) To apply all the fertilizer to be used when the field is being prepared for planting.

(*b*) To apply two thirds of the amount to be used before transplanting and the other one third after the plants are established.

(*c*) To apply half the amount as basic and the other half after transplanting.

(*d*) To apply half the amount immediately after transplanting and the other half about a month later.

The results were as follows:—

Treatment	1st crop paddy catties/D.C.	2nd crop paddy catties/D.C.
All fertilizers as basic	310	348
2/3 basic and 1/3 as top dressing	274	353
1/2 basic and 1/2 as top dressing	306	343
2 top dressings	268	301

It was observed in the trial carried out the previous year that fertilizer applied as two top dressings gave the lowest yield and that there was very little difference in the other methods of application; the same result for the two top dressing method was obtained again this year, but, the best average yield from two crops was obtained by applying all the fertilizer to be used when the field was being prepared for planting. The next in order of yield was, $\frac{2}{3}$ applied as basic fertilizer and the balance $\frac{1}{3}$ applied as a top dressing, after the plants were established. Local farmers never apply fertilizer before a crop has been planted. It may be only by continuous practical demonstrations that they will be persuaded to alter their methods of applying all fertilizers as a top dressing.

Liming trial—Paddy

48. The object of this trial was to investigate the necessity of applying lime to paddy fields and the quantity that may be required by this crop. The quantities of lime applied were nil (check), 400 lbs., 800 lbs. and 1,200 lbs. per acre.

49. The trial carried out in the previous year showed no significant difference in yield between the different applications, but this year two applications, the equivalent of 1,600 lbs. per acre gave the best results.

50. Comparative figures for the 1954 and 1955 trials are given below:—

	Treatment	Yield catties per D.C.	
	lbs. per acre	1954	1955
1.	Nil	250.3	176
2.	400	241.6	178
3.	800	245.1	219*
4.	1,200	261.4	201

Crop Compensation

51. In addition to their other duties, senior members of the staff were frequently called upon to make assessments of damage to growing crops, caused by tanks on army exercises, industrial expansion, road making and the like. The details of this compensation are as follows:—

TABLE VI

1st Quarter

Crop Compensation 1955 - 56

Date	Place	Crops	Area (sq. ft.)	Value ($)	Land required for, or type of damage
6.5.55	Hung Hom	Misc.	39,150	1,616.54	H. K. Chinese Civil Servants' Housing Scheme.
11.5.55	Tonkin St.	„	87,262	10,716.67	Resettlement area.
14.5.55	Kam Tin	Damage of fields	680,199	468.65	Damage of fields by tanks.
16.5.55	„	„	272,250	187.50	„
19.5.55	Kung Tong	Misc.	28,381	2,656.04	Kung Tong Dump.
19.5.55	Tai Wo Hau, Tsuen Wan	Vegetable	109,523	9,160.06	Resettlement area.
21.5.55	Tonkin St.	„	9,406	855.45	„
21.5.55	Sha Tin Pass Rd.	Misc.	1,450	253.27	Reservoir.
1.6.55	Govt. Primary School, Tsuen Wan	Vegetable	2,100	156.00	School site.
9.6.55	Diamond Hill	„	1,050	96.04	Crop damaged by China Light & Power Co.
22.6.55	Hok Yuen St.	Misc.	20,656	1,955.43	Site for school.
28.6.55	Kowloon City	Vegetable	1,768	289.68	Crop damaged by building contractor.
29.6.55	So Kun Wat	Misc.	37,715	1,224.79	Flood damage.
30.6.55	Tsuen Wan Pump House	Vegetable	3,475	244.20	Site for pump house.
		Total	1,294,385 sq. ft.	29,910.32	

2nd Quarter

Crop Compensation

Date	Place	Crops	Area (sq. ft.)	Value ($)	Land required for, or type of damage
4.7.55	Ha Tsun, Ping Shan	Paddy	7,450	70.70	Wire-laying.
6.7.55	„	Vegetable	9,656	913.77	Damage of vegetable.
6.7.55	So Kun Wat	„	12,800	520.00	Removal of sand & rubbles.
13.8.55	Mai Po	Paddy	14,240	122.10	Damage of crops.
5.9.55	Mok Cheong St.	Vegetable & flowers	36,175	5,261.40	Kai Tak Development.
12.9.55	Sai Yee St.	„	15,108	1,352.75	School site.
14.9.55	Sung Wong Toi	Vegetable	211,320	31,722.17	Kai Tak Development.
17.9.55	Chuk Yuen	„	27,744	9,360.57	Resettlement area.
19.9.55	To Kwa Wan	„	9,888	1,442.39	Road Formation.
23.9.55	So Kun Wat	Paddy	14,204	162.80	Road construction.
29.9.55	Tsuen Wan	Ginger lily	3,500	151.80	Washout.
	Total.....		362,085	51,080.45	

3rd Quarter

Crop Compensation

Date	Place	Crops	Area (sq. ft.)	Value ($)	Land required for, or type of damage
6.10.55	Laichikok Gap	Misc.	8,525	438.17	Washouts from stone quarry.
6.10.55	Shek Wu Wai, San Tin	„	37,019	1,445.08	For tank testing ground.
6.10.55	Taipo	Paddy	178,160	2,341.08	Damage of crops.
31.10.55	Mai Po	„	14,204	505.10	Removal of earth.
15.11.55	Kau Wah King, Tsuen Wan	„	30,056	362.25	Flooding.
21.11.55	Kau Wah King & Shek Li Pui	Misc.	24,157	2,781.41	Tai Lam Chung Scheme.
26.11.55	Po On Road	„	6,543	939.02	Drainage & water pipe line.
2.12-55	Fanling	„	3,196	961.48	Damage of crops.
12.12.55	Ap Tsai Wu	„	17,068	1,666.05	Kai Tak Airport Development.
28.12.55	Tsuen Wan	„	4,720	296.04	Tai Lam Chung Scheme.
2.12.55	Sha Tin	„	1,750	99.67	Water piping laying.
	Total.....		325,398 sq. ft.	11,835.35	

4th Quarter (Jan. - Mar. 1956)

Crop Compensation

Date	Place	Crops	Area (sq. ft.)	Value ($)	Land required for, or type of damage
5.1.56	Hung Ling	Vegetable	4,764	141.17	Army exercise.
12.1.56	Hung Shu Kui	„	20,908	24.00	Bus lay-byes.
19.1.56	Ngau Tau Kok	Misc.	144,519	9,855.54	Light industrial.
26.1.56	Taipo	Vegetable	25,664	1,515.44	Pipe-lines.
30.1.56	„	Paddy	11,325	132.50	..
9.2.56	Siak Piak (Lantao Isl.)	Sweet potato	2,065	136.32	Reservoir.
9.3.56	Wing Lung Wai (Kam Tin)	Vegetable	1,750	49.01	Plane crash.
14.3.56	Tai Lam Chung	Misc. crop	12,122	793.00	Road.
14.3.56	Tsuen Wan	Pineapple	40,780	2,744.60	Reservoir.
15.3.56	Fanling	Vegetable	2,759	139.01	Crop damaged.
17.3.56	Ha Tsun	„	3,000	232.44	Tank.
22.3.56	Kennedy Town	Misc.	24,593	1,403.60	Housing Authority site.
23.3.56	Tai Wo Ping	„	16,380	1,211.91	Resettlement area.
26.3.56	Kun Tong	„	19,417	1,268.06	Road formation.
26.3.56	Homantin	Vegetable	648	49.18	Resettlement area.
27.3.56	Ha Tsun	„	3,170	203.90	Tank.
	Total.....		333,864 sq. ft.	$19,899.68	
	Grand total		2,315,732 sq. ft.	$112,725.80	
			or 319 D. C.		
			or 53.1 acre		

Compensation of Fruit Trees

52. Owing to the construction of the Tai Lam Chung Reservoir it was necessary to remove the three villages, Sha Kong Wai, Tai Lam and Kwan Uk Ti, from that area. Old established fruit trees, totalling 557 trees in all had to be felled. The compensation paid by Government to farmers for these trees amounted to $19,356. At Sha Kong Mei compensation paid for 16 fruit trees amounted to $1,560.

Fruit

53. There are in the Colony, roughly 100,000 bearing fruit trees, made up of the following varieties:—

Sweet orange	8,800
Tangerine, var. Nin-ket	9,200
Foreign lemon (several var.)	300
Local lemon (Chinese lime)	10,000
Pumelo	600
Mandarin	600
Calamondin (Including pots)	1,800
Kumquat	1,200
Wongpei (Yellow bullet)	5,000
Lychee	5,500
Longan	3,500
Papaya	18,000
Guava	17,000
Banana	5,000
Chinese olive (white & black)	4,000
Carambola	1,000
Peach (sweet & blossom)	5,000
Mango	1,000
Yanmin	300
Plum	500
Persimmon	400
Pear	300
Misc. (Jack-fruit, rose apple, custard apple, Japanese apricot etc.)	1,000
Total	100,000

To encourage the growing of more fruit in the Colony, a village orchard scheme was started. This meant that wherever suitable land, situated near a village, was available and the villagers were willing to co-operate by clearing the land, erecting the fencing, digging the holes and planting the trees, the Kadoorie Agricultural Aid Association supplied fencing material, citrus and other fruit seedlings free of charge. In all cases the work was

supervised by a member of the Agricultural Division. During the period under review 8 village orchards were established at the following places:—

	Name of village orchard	Date of establishment	Location	Acreage in acre	Kinds of fruit trees			Families benefited
1.	Chih Nai Ping	25/6/55	Sha Tin	1.2	Sweet orange Tangerine Jap. apricot	30 126 150	306	32
2.	Wah Shan	13/6/55	Sheung Shui	2.3	Tangerine St. orange Pummelo Jap. apricot	254 28 28 135	445	28
3.	Taipo Tsai	„	Saikung	.8	Sweet orange Pummelo Tangerine	40 40 110	190	36
4.	Sai Shan	5/8/55	Ha Tsun	1.0	Tangerine Sweet orange Pummelo	170 22 22	220	23
5.	Ha Tse	„	Pat Heung	1.5	Tangerine Sweet orange Pummelo	260 30 30	320	30
6.	Sheung Shui Wai	31/10/55	Sheung Shui	1.7	Wongpei Local lemon Jap. apricot	75 75 127	277	817
7.	Chang Lan Shin	1/11/55	Saikung	1.3	Tangerine Local lemon Jap. apricot	22 120 90	232	72
8.	Luk Dai Tong	29/3/56	S. M. Bay	1.0	Local lemon Jap. apricot Wongpei	100 144 40	284	25
		Total.....		10.8			2,274	1,063

Sites for 12 more orchards have been cleared and the holes dug. Planting is to begin very soon. In addition to the fruit seedlings, 22,000 pineapple suckers of the "Smooth cayenne" and "Sarawak" varieties were imported from Singapore and given to farmers, who have planted them between the rows of citrus.

There is a great demand on the local market for fruit and good prices can be obtained for any locally grown fruit, supplied fresh to the market. Citrus, in particular sold very well during the Chinese New Year. Tangerines fetched from $65 to $130 per picul as compared with $60 to $100 in 1954/55:—

Local lemons $30 to $50	1954/55	$ 20 to $ 25
Japanese apricot $60 to $75.	1954/55	$ 55 to $ 65
Sweet orange $150 to $180 ...	1954/55	$100 to $150

The total amount of fruit exported from the Colony was 823.7 metric tons. This consisted of dried and preserved lychees, preserved apricots, lemons and wongpei.

Fruit propagation

54. A congeniality test, using different types of rootstock and tangerine scions was carried out with the following results:—

TABLE VII

	Rootstock used	*Height of Grafted Tangerine*	*Growth condition*
1.	Local lemon (Chinese lime) ...	4 ft. 9 ins.	Excellent
2.	Calamondin	4 ft. 4 ins.	Very good
3.	Rongpur lime	4 ft. 9 ins.	Very good
4.	Rough lime	3 ft. 11 ins.	Very good
5.	Mandarin var. Chui Chow ...	3 ft. 10 ins.	Good
6.	Tai Wan Sour tangerine	3 ft. 8 ins.	Good
7.	South African orange	3 ft. 7 ins.	Fair
8.	Tangele var. Sau Jacinte	2 ft. 6 ins.	Poor
9.	Sour Seville var. Barnado ...	2 ft. 1 in.	Poor
10.	Sweet Serville var. R.H.P. ...	2 ft. 1 in.	Poor
11.	West Indian lime	2 ft. 1 in.	Poor
12.	Sweet lemon	1 ft. 5 ins.	Bad

Kadoorie Agricultural Air Extension

55. A gift of $250,000 by Messrs. L. & H. Kadoorie increased by Government by a similar sum, was the beginning of a fund which is now known as the Kadoorie Agricultural Aid Loan Fund.

56. The Fund is operated by a committee of five members, with the Director of Agriculture as Chairman and Trustee.

57. Interest free loans of up to $2,000 for periods varying from 6 months to two years are made to farmers, to assist them to purchase draught animals, feed, fertilizer, seeds, implements etc.

58. A statement of the Fund as it stands at present is as follows:—

No. of loans approved	*Purpose of Loan*	*Amount issued*
374	Purchase of livestock & housing	$152,870.00
327	Purchase of livestock feed	142,180.00
31	Purchase of building material	5,760.00
6	Costs of land development	2,850.00
525	Purchase of seed & fertilizers	30,063.34
9	Purchase of insecticides	530.00
1,272	Total	$334,253.34

During the year selected paddy seed and mixed fertilizers were issued on loan to the following:—

(1) 2nd crop padi fertilizer 1955

	District	*Families*	*Amount (Catties)*	*Area covered D.C.*
1.	Castle Peak	294	37,996	826
2.	Tsuen Wan	9	1,380	30
3.	Lantao	121	11,408	248
4.	Saikung	218	23,000	490
5.	Sha Tin	116	19,228	418
6.	Taipo	118	21,988	478
7.	Sheung Shui	42	9,844	114
8.	Kam Tin	201	15,272	332
	Total	1,118	140,116	2,936

(2) 1st crop padi fertilizer 1956

	District	*Families*	*Amount (Catties)*	*Area covered D.C.*
1.	Castle Peak	79	15,440	386
2.	Tsuen Wan	6	1,080	27
3.	Lantao	29	5,480	137
4.	Saikung	48	9,200	230
5.	Sha Tin	35	6,280	157
6.	Taipo	41	7,920	198
7.	Sheung Shui	48	8,560	214
8.	Kam Tin	50	9,400	235
9.	Tung Chung	86	16,800	420
10.	Shataukok	128	24,000	600
	Total	550	104,160	2,604

(3) 2nd crop padi seed, 1955

	District	*Families*	*Amount (Catties)*	*Area covered D.C.*
1.	Castle Peak	323	9,460	946
2.	Tsuen Wan	—	—	—
3.	Lantao	15	395	56½
4.	Saikung	33	876	125
5.	Sha Tin	48	1,700	421
6.	Taipo	45	1,820	260
7.	Sheung Shui	50	1,337	206
8.	Kam Tin	213	5,315	760
	Total	727	20,903	2,774½

(4) 1st crop padi seed, 1956

	District	*Families*	*Amount (Catties)*	*Area covered D.C.*
1.	Castle Peak	191	4,668	666.90
2.	Lantao	10	315	45.00
3.	Saikung	5	1,100	157.10
4.	Sha Tin	17	697	99.50
5.	Kam Tin	93	1,615	230.70
	Total	316	8,395	1,199.20

59. In addition 23,843 bags of cement were given free of charge by the Association through District Officers to farmers, for the improvement and extension of local public works.

60. The distribution of this cement and the purpose for which it was used, is set out below:—

Location	Dams	Channels	Paths	Bridges	Wells	Piers	Reservoirs	Bunds	Others
D. O. South.....	22	6	7	6	39	1	1	—	—
D. O. Yuen Long.	1	1	3	2	3	—	—	—	—
D. O. Taipo.....	65	24	46	11	23	1	—	2	16
D. A. F. F.	8	42	9	8	11	1	—	—	27
Total.....	96	73	65	27	76	3	1	2	43

The water pumps which were presented to Government by the K.A.A.A. were put to excellent use during the long dry periods which prevailed during the early part of the season.

61. A list of the districts and the areas irrigated is as follows:—

District	Villages	Families	Area irrigated	Working hours	Crops
1. Ha Tsun.....	3	39	103.00	120	Padi
2. San Tin	7	131	689.60	693¼	Padi
3. Ping Shan	10	353	1,465.00	1,834¾	Padi
4. Kam Tin	12	220	405.00	839¾	Padi, Veg., 3 wells
5. Castle Peak	22	184	507.00	518½	—
6. Sheung Shui	3	227	659.00	929	Padi & fish pond
7. Sha Tin	2	7	10.00	11½	Padi
8. Taipo	5	202	605.00	1,338	Padi & vegetable
9. Saikung	2	6	36.00	35	Padi
Total.....	66	1,369	4,479.80	6,319¾	

Rural Education and Information

62. Besides lectures delivered to school children at schools, and practical demonstrations given by senior members of the staff to farmers on agricultural stations and in the field, agricultural education in the form of film shows on matters of agricultural interest were shown in the districts. Twenty three shows were held and 9,000 people attended them. Most of the films shown were colour sound strips of 30 minutes duration, which, included shots of the Agricultural Show, Fisheries Exhibition, paddy culture, vegetable culture, compost making, insect pest control and many other interesting subjects. More and more farmers are visiting agricultural stations; during the year 7,696 people visited the agricultural stations at

Castle Peak	3,500
Sha Tin	700
Sheung Shui	850
Taipo	706
Silver Mine Bay	356
Saikung	834
Tsuen Wan	750
Total	7,696

Agricultural Show

63. The Agricultural Show, which was again held at the Yuen Long Public Middle School was a great success. A record number of entries were received and about 70,000 people attended the Show.

Insect Pest and Disease Control

64. There are many insects and pests affecting crops in this Colony. The most serious of these which does considerable damage, each year to paddy, is the Rice Stem Borer (Schoenobius incertellus W.).

65. The presence of army worm was discovered again during October in three areas. Prompt action taken by the Pest Control Team of the Department, curtailed the spread and reduced what might have been serious loss of crops.

66. The following is a list of some of the most common insects affecting plants and the times of the year during which they are most troublesome:—

Vegetable	*April to June*	*July to Sept.*	*Oct. to Dec.*	*Jan. to Mar.*
Cucurbits	Melon fly. Red spider. Cucumber beetle.	Cucumber beetle. Red spider.	Aphids.	—
Crucifers	Flea beetle. Cabbage worm. Fall armyworm.		Flea beetle. Cabbage worm. Loopers. Aphids. Webworm. Leaf miner fly.	Aphids. Flea beetle. Cut worm. Webworm. Dramond back moth.
Beans	Red spider	Blister beetle. Weevil.		
Fruit	*April to June*	*July to Sept.*	*Oct. to Dec.*	*Jan. to Mar.*
Citrus	Orange dog. Cottony cushion. Scale insect. Spider mite.	Plant lice. Cottony cushion. Scale. Orange dog. Stink bug. Mealy bug. Red spider mite. Gold dust snout. Beetle.	Long horned. Beetle.	Aphids. Leaf miner. Mock 1. Beetle 1. Leaf roller. Moth. Red spider.
Lychee & Longan	Stink bug. June beetle.	Stink bug in dormant stage.		June beetle.
Papaya	Scale insect.	Scale insect. Red spider.	Red spider.	Red spider.

During the year the Pest Control Team visited 222 villages and treated an area of 41,415 D.C. of fruit trees, paddy, vegetables and miscellaneous crops.

African Giant Snails (Achatina fulica Fer)

67. The African snail was introduced, it is said, by the Japanese during their occupation of the Colony. These pests are voracious feeders and a great deal of damage to vegetable crops in the Tsuen Wan area was reported. It was decided to start a campaign against them and for this control two kinds of bait were used: (*a*) metaldehyde and (*b*) arsinette.

68. Both these baits were found to be excellent and the result of three months treatment on 26.6 acres of land, is as follows:—

Time	Kinds of baits	Amount used in tests	No. of dead snails collected	Remarks
July, 1955 ...	P. P. slug bait concentrate	12	1,472	1:20 rice bran
	Arsinette	12	1,868	1:50 „ „
Aug., 1955 ...	P. P. slug bait concentrate	12	1,940	1:20 „ „
	Arsinette	12	1,819	1:50 „ „
Sept., 1955 ...	P. P. slug bait concentrate	12	2,280	1:20 „ „
	Arsinette	12	2,508	1:50 „ „
		Total	11,887	

69. The following list of new insecticides were tested during the year:—

(*a*) Scalecide (U.S.A.) ..... 1:50 was non-effective in controlling citrus cottony cushion scale.

(*b*) Aramite ..... 1 tablespoonful/gal. of water was non-effective in papaya red spider control, but 1:398 parts of water gave about 70% control.

(*c*) 50% malathion emulsion ... 10 c.c. to 1 gal. of water was quite effective in red spider control in citrus and papaya.

(*d*) 50% malathion emulsion ... 1 fl. oz./6 gal. of water was also effective in flea beetle control.

(*e*) Slug Bait Concentrate ..... 1 part to 30 parts of bran was effective in controlling African Giant Snail.

(*f*) Lead Arsenate ..... 1 part of 50 parts of rice bran was very good in controlling the same snail.

(*g*) 50% dipterex emulsion ..... 1:200—300 parts of water gave excellent results in flea beetle control.

(*h*) 50% dipterex wettable ..... 1:71—100 parts of water gave a 100% kill powder on flea beetles but had no effect on aphids.

(*i*)	20% chlorthion wett. powder	1:80—133 parts of water gave excellent results in controlling flea beetles and aphids.
(*j*)	50% chorthion emulsion	1:200—300 gave the same results as 20% chlorthion wett powder in controlling flea beetle and aphids effective within 5 days.
(*k*)	Chloroberizilate 25E	1:500 parts of water gave excellent control on red spider of citrus, strawberry and papaya.
(1)	Basudin 20E	1:600—960 parts of water gave 100% control of flea beetle within 5 days period.

Collection of agricultural poisons insecticides banned by Government and handed over to the Government Store Department for destruction:—

Folidol E 605	10,305.7 c.c.
Basudin 60 E	100 gm.
Fosfex	291.6 c.c.
Parathion insecticide	100 c.c.

Fertilizer & Manurial Trials

Vegetables

70. An experiment started two years ago to test the effect of the use of pure nightsoil as applied by farmers to vegetable land in comparison with several other fertilizer combinations, revealed the following information:—

(1) Compost and nightsoil gave an average increased yield of 22.61% over nightsoil alone.

(2) Compost and organic balanced fertilizer gave an average increase in yield of 11.59% over nightsoil alone. The high cost of this mixture makes it uneconomical to use.

(3) Compost and inorganic balanced fertilizer gave an average increase in yield of 10.27% over nightsoil alone.

(4) Organic balanced fertilizer gave an average increase in yield of 9.84% over nightsoil.

(5) Nightsoil used alone gave significantly better results than inorganic balanced fertilizer or compost used alone.

Following the above an experiment using compost as the control fertilizer was carried out as follows:—

The compost used in this experiment was derived purely from vegetable waste.

Field layout: The size of each micro plot was 7′ × 7′, set out at random with four replicates for each treatment.

Fertilizer application: The formula used was 8-5-5 at the rate of 3 piculs (1 picul = 133⅓ lbs.) per dou chung (6 dou chung = 1 acre). Expressed in terms of catties (1 catty = 1⅓ lbs.) per dou chung, this dressing is equivalent to 24 catties N., 15 catties P_2O_5 and 15 catties K_2O.

In calculating the different fertilizer treatments, the following ratios were used:—

(*a*) Inorganic balanced fertilizer:

Formula 8-5-5 or 8 catties N.; 5 catties P_2O_5; 5 catties K_2O = ammonium sulphate 40 catties superphosphate 28 catties, muriate of potash 10 catties.

(*b*) Organic balanced fertilizer:

Using peanut cake, bone meal and grass ash, the calculation was:—

Kind & amount of fertilizer	N Catties	P_2O_5 Catties	K_2O Catties
Peanut cake 96 catties	7.25	1.21	1.44
Bone meal catties 20	0.76	4.64	0.04
Grass ash 80 catties	—	1.65	3.60
	8.01	7.53	5.08

(*c*) Nightsoil:

The amount of nightsoil used was based on the same formula 8-5-5, assuming that 1,400 catties of nightsoil will contain 8 catties N., 5.8 catties P_2O_5 and 3.8 catties of K_2O. Therefore 3 $\times$ 1,400 is the amount of nightsoil required per dou chung ($\frac{1}{6}$ acre).

Combination of fertilizers used:

(1) Compost alone (control).

(2) Compost plus nightsoil.

(3) Compost plus inorganic balanced fertilizer.

(4) Compost plus organic balanced fertilizer.

(5) Compost plus ammonium sulphate.

(6) Compost plus peanut cake..

Prior to this test, a soil uniformity test was carried out on the same ground. Lettuce was the indicating plant and the results obtained were as follows:—

Yield per micro plot	1	2	3	4	5	6
Block 1	33 cats.	35	40	31	45	24
Block 2	33	39	36	42	40	34
Block 3	48	38	37	43	34	40
Block 4	44	34	30	36	38	30
Total	158	146	143	152	157	128
Av. per plot ...	39.5	36.5	35.75	38.0	39.25	32.0

71. From the results on the above, the difference in yield in each of these plots due to soil heterogenity, compared with the check plot (compost), was as follows:—

Plot 1	Check	Plot 4	3.8% (lower)
Plot 2	7.6% (lower)	Plot 5	6.3% („)
Plot 3	9.5% („)	Plot 6	19.0% („)

In the fertilizer test, cabbage was the indicating plant. Seeds were sown in boxes on 1st January, 1956 and transplanted into the field on 7th February, 1956 and harvested on 1st May, 1956. The following results were obtained:—

Yield per micro plot	1	2	3	4	5	6
Block 1	30 cats.	30	28	30	31	29
Block 2	32	30	32	30	28	28
Block 3	31	32	26	22	31	32
Block 4	30	31	29	28	31	27
Av. per plot	30.75	30.75	28.75	27.50	30.25	29.00
Total	123	123	115	110	121	116

72. Calculating the results from the above figures, the difference in yield in each treatment as compared with the check plot regardless of the effect due to the soil heterogenity, it was found that:

Plot 1	Check	Plot 4	10.50% (lower)
Plot 2	—	Plot 5	1.6% („)
Plot 3	6.5% (lower)	Plot 6	5.7% („)

73. Comparing the soil uniformity test with the fertilizer test the following results were obtained:—

Treatment	Result from soil uniformity	Results from diff. fertilizer	Comparison of diff. in yield
1 Compost	—	—	—
2 Compost plus N. S.	– 7.6%	Same	7.6%
3 Compost plus I. B. F.	– 9.5%	– 6.5%	3.%
4 Compost plus O. B. F.	– 3.8%	–10.5%	– 6.7%
5 Compost plus Amm. Sul.	– 6.3%	– 1.6%	4.7%
6 Compost plus peanut cake	–19%	– 5.7%	13.3%

Indications:

(*a*) Using compost plus peanut cake the increase in yield was 13.3%.

(*b*) Compost plus nightsoil gave a 7.6% increase in yield.

(*c*) Compost plus ammonium sulphate 4.7% increase.

(*d*) Compost plus inorganic balanced fertilizer 3% increase.

(*e*) Compost plus organic balanced fertilizer, a decrease in yield of 6.7%.

PART 3

ANIMAL INDUSTRIES DIVISION

Acting Senior Veterinary Officer: L. A. Stephens, B.V.Sc. (Sydney).

Introduction

74. At the end of the financial year a visit was paid to the Colony by Mr. R. S. Marshall, C.B.E., M.R.C.V.S., D.V.S.M., Adviser on Animal Health to the Secretary of State for the Colonies. Mr. Marshall stayed ten days and inspected all aspects of the work of the Division.

75. In August 1955, Mr. J. E. Lancaster, B.S.C., M.R.C.V.S., Poultry Adviser to F.A.O. visited the Colony from Thailand at the request of Government to report on the Poultry Industry of Hong Kong. He later issued a Report (F.A.O. Report No. 430 "The Hong Kong Poultry Industry").

General

Animal Population

76. It is difficult to assess accurately the livestock population of the Colony. Cattle and buffalo are for the most part distributed amongst the farmers of the New Territories and are used as working animals. They are the indigenous Chinese Brown Cattle and Indian Buffalo respectively. From inoculation figures they number approximately 10,000. In addition there are about 2,800 dairy cattle of exotic breeds which supply fresh milk to the urban area, pigs of the native Chinese type together with introduced exotic breeds and, as a result of crossing, a large number of hybrids mostly tending towards the exotic type. The pigs are divided amongst the peasant farmers where small numbers are kept by the families in conjunction with their main

occupation of rice growing. Larger numbers are kept by breeders and co-operative pig raising societies. In the latter case, pig raising is the main source of income. During the year approximately 120,000 pigs of local origin passed through the New Territories and urban area slaughter-houses. Poultry for the main part consists of the local Cantonese chicken which is reared primarily as a table bird. These birds are to be found amongst the peasant farmers and specialized poultry farms where poultry raising is the main source of income. Most of the chickens hatched in the Colony are from eggs imported from the Mainland. From hatchery figures, approximately 4-5 million such chickens were hatched and raised in the Colony last year. Birds are sold at about 16-20 weeks of age and most farmers aim to catch the better prices of the main Chinese festivals. In addition, there are approximately 30,000 birds of exotic breeds, mostly White Leghorns, kept for table egg production. Large numbers of ducks are raised in the Colony, the numbers probably being in excess of 200,000. They are usually raised by farmers who have no other source of income and who have to borrow money from speculators for the purpose.

Markets

77. Theoretically, owing to the large urban population, there should be a ready market for locally produced livestock at prices favourable to the local farmer. However this is not necessarily the case owing to the proximity of exporting countries which are able to produce livestock at very competitive prices. Hong Kong does not produce sufficient animal feeding stuffs for its own requirements but is dependant on imports from other countries and prices for feeding stuffs are relatively high. It is estimated that 90% of the Colony's requirements of slaughter stock has its origin in other countries mainly China, Thailand and Formosa.

Work of the Division

78. From the above it can be seen that in order to improve the lot of the farmer and enable him to compete, one of the main duties of the Animal Industries Division is Disease Control to

which is closely allied Animal Husbandry. In addition, the Division is responsible for the public health measures of Rabies control, meat inspection in the New Territories Abattoirs, and dairies inspection as well as veterinary inspection of animals and animal products exported from the Colony.

Disease Control

79. At the beginning of the financial year, three officers were transferred from the Agricultural Division. Each was given an area to control and one officer has been appointed to take care of poultry disease control work.

Quarantine

80. During the year, the Quarantine Enforcement Team was consolidated, and now all animals entering the Colony are escorted to a quarantine lairage. The number of stock escorted amounted to 99,925 cattle and buffalo and 789,908 pigs.

Diagnostic Laboratory

81. A new diagnostic laboratory was completed at Castle Peak Agricultural Station in March. With these facilities, it is hoped in 1956-7 to do an accurate survey of livestock diseases and parasites existing in the Colony.

Cattle and Buffalo

Foot and Mouth Disease

82. In rural areas, 8 outbreaks of Foot and Mouth Disease were reported during the year. The local animal is not seriously affected and in each case the disease died out without spreading to neighbouring villages. The source of infection was difficult to determine, but evidence pointed to the escape of infecting virus from urban area abattoirs. Inspection conditions are far from ideal in these places and at the time (April and May), large numbers of infected animals were arriving from neighbouring countries. In June therefore, total condemnation without compensation was instituted. Between then and December 1955 a

total of 525 animals were totally condemned in the urban area abattoirs; this had the desired effect since the numbers of affected animals from exporting countries declined and only 23 cases were reported during the period January—March. Specimens of virus from infected animals imported from both Thailand and Mainland China were sent to the Foot & Mouth Disease Research Institute, Pirbright for typing. As well as Type A, Type Asia 1 was recovered. This fact is highly significant since the exotic dairy stock in the Colony have, in the past, only been vaccinated with Type A vaccine (Amsterdam). Since Type Asia 1 vaccine is not available, the protection of these animals depends on strict quarantine and total condemnation of affected cattle in the abattoir lairages.

Rinderpest

83. No case was reported for the year, making the sixth consecutive free year. This freedom can be attributed to the use of lapinized vaccine but it is also significant that no case of Rinderpest was reported in abattoir lairages amongst stock imported from contiguous China. A total of 7,522 animals were inoculated for the year.

Ephemeral Fever

84. This disease exists probably to a greater extent than has previously been recognized, it does not seriously affect the native animal which recovers spontaneously in a few days, therefore many cases go unreported or are diagnosed as a fever of unknown origin. Farmers remember the disease from previous years when it was usually treated with penicillin with amazing results. The incidence is greatest in the Spring with the onset of warmer and wetter weather when there is an increase in the number of biting insects. It is not so prevalent in the drier and cooler months.

Blackleg

85. Blackleg does exist in the Colony but the incidence is very low. However, deaths do occur and the individual loss is relatively great for it is usually the one beast owned by the peasant farmer that is affected. Since inoculation teams

already operate for Rinderpest, it is thought reasonable to include Blackleg inoculation in the annual Rinderpest inoculation. It is therefore proposed to do this as a concurrent operation.

Anthrax

86. No case of Anthrax has been definitely diagnosed in the rural areas during the year. However, cases are from time to time discovered in the abattoir lairage amongst slaughter stock from China. Since an appreciable amount of feeding stuff is imported from China it is reasonable to assume it does occur in the New Territories. The difficulty of accurate diagnosis lies in the fact that by the time reports filter through from outlying districts, the animal is dead, buried and decomposed.

Pigs

Swine Fever

87. During the year the Hudson strain lapinized swine fever vaccine was successfully introduced to the pig raisers of the New Territories. It may be safely said that swine fever does not present the problem it did in the past. Whilst outbreaks are still reported, in each case it has been found that the farmer concerned had not vaccinated his animals. The necessity for having animals vaccinated has been so impressed on farmers that from a total of 660 requests for vaccination during the quarter April—June, 1955, the number steadily rose to a total of 9,060 vaccinations carried out during the year.

Brucellosis

88. There is little change in the incidence of this disease. Farmers are now recognizing the disease and are selling affected stock for slaughter without reporting the condition. It appears likely also that on certain farms the disease is now becoming self limiting and that some of the breeding sows are developing an immunity after one or two abortions.

Swine Influenza and Pneumonia

89. This presents the biggest problem pig raisers now face. During the year nearly 500 cases were reported and it is known

that this by no means represents the total. The villagers unfortunately put all their faith in penicillin and losses are considerable.

Other Diseases

90. Piglet Anaemia, White Scours and parasitism are common. This is more noticeable where pigs are kept intensively and is rarely seen under usual village conditions of partial free range. Hypoglycaemia of baby pigs was also observed and on one farm caused considerable losses.

Poultry

Newcastle Disease

91. This disease has shown a marked decline. Both Ranikhet vaccine and the Weybridge "F" strain vaccine are now extensively used and a total of 1,558,880 doses were used during the year. This figure does not represent a complete coverage; however, the disease no doubt exists in the more isolated areas amongst the village farmers and goes unreported. During the coming year it is hoped to institute a system of inoculations of day-old chicks with this vaccine in the hatcheries, and thus eliminate the disease entirely from the Colony.

Avian Leucosis Complex

92. During the year this disease showed a marked increase in incidence and has now taken the place of Newcastle disease as a factor limiting poultry production. On some of the bigger farms the incidence was as high as 30% of the flock, and since the birds were anything from 2 to 3 months old, considerable economic loss was experienced. For some time farmers did not distinguish this disease from Newcastle disease, the "F" strain and Ranikhet vaccines being blamed, and the inoculation programme placed in jeopardy. A meeting of the Poultry Breeders' Association was called to explain the nature of the disease and steps to be taken to prevent it spreading. So far these measures seem to be meeting with some success.

Paratyphoid Infections

93. These infections still cause heavy losses in the industry. They are not as spectacular as the more acute disease and farmers find it difficult to understand their nature. The only approach to the problem lies in improved husbandry.

Parasitism

94. This infection is a drain on the industry and better methods of husbandry is the answer. The drug Piperazine has been introduced, but farmers are very slow to appreciate the benefits that can accrue from its use.

Coccidiosis

95. This disease has definitely declined in incidence. Several good remedies are now on the market and are in use. However, it is still felt that due to haphazard use full benefit from these drugs is not yet obtained.

Fowl Pox

96. The disease is still prevalent though not as much so as in past years. In the future it is hoped to introduce a Weybridge strain of vaccine that can be used on day-old chickens. The vaccine is at present being used in Thailand with marked success.

Ducks

Duck Septicaemia

97. Sudden and severe outbreaks of this disease occur. Unfortunately these outbreaks, in many instances, have gone unreported until it has been too late to do anything and losses of up to 80% have been recorded. Sulphadimidine has been used with a measure of success.

Septic Arthritis

98. This infection has made its appearance on several occasions. Again it has gone unreported and heavy losses (up to 30% of almost mature birds) have been incurred. Since no

treatment of any kind is of value it is a very difficult disease to deal with for the farmer invariably expects "injections" and not merely advice.

Animal Husbandry

Cattle and Buffalo

99. As stated above, with the exception of the exotic dairy animals, cattle and buffaloes are kept purely for draught purposes. The cattle are relatively small, seldom weighing more than five piculs live weight. The introduction of foreign breeds and crossing them with local animals to increase their size has been considered but the wisdom of this is debatable. It is not certain that the farmer wants a large animal to look after. Grazing is plentiful during the summer but in winter it is usually scarce and even cattle of the present size show a marked decline in condition. The average paddy field is relatively small and it is felt that the present animal can cope with the work it is required to do. Good large oxen can be obtained from the present animals by castration, this operation is often ignored by farmers and heifers are often bred at too young an age.

Pigs

100. Pig husbandry and improvement presents a difficult problem. On the one hand the Chinese pig is prolific, has resistance to diseases associated with local husbandry, does well on the cheaper feed usually fed, but on the debit side takes a relatively longer time to mature. The exotic pig on the other hand is quicker maturing but must be very carefully looked after and demands conditions that normally do not exist in the Colony. The ideal solution is the use of the Chinese sow with the exotic boar. However, the farmer does not usually stop at this cross and does not breed his own native sow replacements, but mates his first cross sows back to the exotic boar and so on. The result is a diminution of the quality of the resultant animal and it is a fact that good quality native sows are scarce in the Colony. Evidence seems to point to the native sow having an inherited immunity to brucellosis. These animals test positive

to brucellosis but rarely abort. Immunity, however, would appear to be lost on the first crossing.

101. The problem of feeding is also of primary importance. As stated, Hong Kong is forced to import a great deal of its animal feeding stuffs and the price is consequently high. For the pig farmer who relies solely on pigs for his living and is faced with keen competition from China, a livelihood from pigs is often very precarious. The price of foodstuffs in addition is usually outside the means of the small village farmer. He relies on cheaper materials and the pig foraging for itself. The result is that the pig takes a longer time to reach market weight, and in the case of exotic pigs an inferior quality animal is produced.

102. Of recent years, a good deal of village husbandry has been replaced by the housing of pigs in separate concrete sties. This in many ways is a mistake. In village husbandry the pig is part of the village and is able to add substantially to its diet by foraging. Where the pigs, however, are confined to sties, they lose by not foraging, deficiency diseases set in and in no time the sties become a morass of filth. Until the farmers learn how to keep pigs in concrete sties it is wiser to let the pigs roam loose to forage.

103. With all the above in mind the Division has decided to concentrate on the native pig for the present. Over a period of years now the exotic pig has made its influence felt and the result is the large numbers of hybrid sows of all types already mentioned. The Division therefore maintains two herds of pure native pigs at Castle Peak and Saikung in order to produce both gilts and boars for breeding. Both these places have had very good records over the last year. The demand for gilts exceeds the supply, farmers seeming to realize the true value of the Chinese sow. Unfortunately the requests for boars have been few. At Sheung Shui a small herd of Berkshire and Mid White pigs is maintained. These pigs were imported from Japan last year and it is intended to use them for comparative studies of the exotic and local breeds under local conditions of husbandry and feeding.

Poultry

104. As explained above the main chickens kept in the Colony are the local Cantonese type. These birds are small, weighing 1½ to 2 catties at 20 weeks, but they are eminently suited to the Chinese table. They are poor egg layers, however, and for this reason supplies of hatching eggs are short during the summer and the price of chicken usually rises. How this position can be overcome is difficult to see, probably the only answer lies in individual selection from very large numbers of birds. Crossing with other breeds has been done but the size of bird produced has been too large for the local market.

105. About 30,000 White Leghorns are kept in the Colony. At the Castle Peak Agricultural Station a progeny test has been instituted in an endeavour to improve the performance of these birds under local conditions.

Public Health

Rabies

106. The Division undertakes the task of Rabies control in the Colony. Annual inoculations are carried out and a Dog Control Unit is maintained for the purpose of catching and destroying stray and unwanted dogs. Four kennels are maintained for the purpose of quarantine and observation.

107. For the sixth year in succession no cases of Rabies were reported from the urban areas. In the rural areas, 2 cases in humans, 8 in dogs, 1 in a cat and 1 in a calf were reported during the period April to November, 1955. Since the latter date no further cases have occurred. This is gratifying since it is difficult to prevent stray dogs entering the Colony from neighbouring territories.

108. In December the Dogs and Cats Regulations were amended to provide for compulsory ear tattooing at the time of inoculation. A code date is used which indicates the month and year in which the animal receives its immunization. The system is working well.

Departmental experiment on cultivation of oysters by hanging-drop method.

Golden Hill Fire Lookout (erected in 1956) with backgrou

Distribution of fertilizers to farmers in remote areas by air drop.

ng Mun Valley (right) and Tai Mo Shan (middle).

Winnowing of paddy by native winnowing machine.

109. During the year 17,339 vaccinations (Flury Strain Avianised) were carried out. Biting cases admitted for observation numbered 1,850 dogs, 153 cats and 12 monkeys. In addition a total of 754 dogs and 4,834 cats were destroyed as unlicensed strays.

Abattoirs

110. In August, 1955 the two New Territories abattoirs at Taipo and Yuen Long were brought under Government control with the appointment of two overseers for the purpose of meat inspection and quarantine. This represents a big advance in New Territories public health since formerly no system of meat inspection existed and no meat, however diseased, was ever wasted. The area covered by these abattoirs is about two thirds of the New Territories and with the inclusion of the Tsuen Wan area in the coming year full coverage will be given to the New Territories.

Dairies

111. Licensing and control of the urban area dairies has now passed to the Department. Dairies inspection was carried out during the year and raw milk samples taken regularly for bacteriological examination. In addition, on the condition that all reactor animals be slaughtered, three mainland dairies were put under the tuberculin test and eventually declared tuberculosis free. Tuberculosis is prevalent amongst the remainder of the mainland dairies.

Veterinary Inspection

112. The Senior Veterinary Officer is concerned with the export of animals, birds and commodities of animal origin. Certificates of health and or soundness are required by most importing countries and health certificates covering 1,080 animals and 87,174 birds were issued. In addition certificates of soundness were issued for animal products to a total weight of 8,000,000 lbs. Fees collected for this service and paid into general revenue were $17,937.00.

Statistics

Quarantine

113. The following animals were admitted to the three quarantine stations:—

Cattle	89,925
Pigs	789,908
Sheep & goats	10,977
Dogs	97
Cats	9

Scheduled Diseases discovered in quarantine stations and slaughter-houses

114.

Diseases	Cattle	Pigs	Goats
Tuberculosis	83	95	—
Foot & Mouth disease	686	38	—
Rinderpest	1	—	—
Anthrax	16	2	—
Swine fever	—	1,032	—

Animal Importation

115.

Source	Cattle & Buffaloes	Pigs	Goats
China	75,001	630,965	10,977
Siam	13,648	3,582	—
Taiwan	—	11,840	—
Total	88,649	646,387	10,977

Slaughter-houses Statistics

116.

	Urban Abattoirs	N. T. Abattoirs
Swine killed	763,039	26,869
Cattle „	87,555	1,034
Goats „	10,411	2 (for the period Aug. 1955 to March 1956 only)

Observation Kennels

117. In the four observation and quarantine kennels the following animals were dealt with:—

Observation Animals	Dogs	Cats	Monkeys
No. in kennels as at 31.3.55	26	1	—
Admitted during year	1,850	153	12
Returned to owners	1,627	108	11
Destroyed	181	42	1
Died	24	2	—
Remaining in kennels on 31.3.56	44	2	—

Stray Animals

118. Stray animals brought in by the Police or the Mobile Dog Control Unit of the division were:—

Stray Animals	Dogs	Cats	Monkeys
No. in kennels as at 31.3.55	4	1	—
Admitted during year	1,888	4,838	3
Returned to owners	1,424	3	2
Destroyed	450	4,834	1
Died	4	2	—
Adopted by new owners	10	—	—
Remaining in kennels on 31.3.56	4	—	—

Dog Control Unit

119. Details of work done by the Dog Control Unit during the year are as follows:—

Total No. of dogs caught	2,296
Licensed dogs caught & released	1,396
Unlicensed dogs caught & released after inoculation	596
Unlicensed dogs destroyed	304

Inoculation Teams

120. Details of work done by inoculation teams are as follows:—

Cattle	— rinderpest	7,522
Pigs	— swine fever	9,060
Poultry	— Newcastle disease	1,558,880
Dogs	— anti-rabies	17,339

Commercial—Veterinary Inspection

121.

Animals	
Dogs	341
Cats	16
Monkeys & gibbons	271
Rabbits	422
Guinea pigs	30
Birds	
Cage birds	84,957
Poultry	2,217
Miscellaneous	
Turtles	2,016
Fish	17,780
Snakes	8

Animal Products

Cattle hides	1,610,166	lbs.
Deer skins	112,703	„
Goat skins	19,019	„
Horse hides	236,752	„
Bristles	182,850	„
Raccoon hair	2,315	„
Goat hair	53,577	„
Feathers	226,881	„
Hide cuttings	1,536,100	„
Bone meal	3,954,232	„
Deer horns	136	„

Food Products

Shell meat (Conch Meat)	1,215	lbs.
Dried marine foodstuffs	1,265	„
Hog casings	4,029	„

PART 4

FISHERIES DIVISION

Fisheries Officer: Mr. W. D. Orchard.

Introduction

122. The division is concerned with fisheries administration and extension work. Promotion of mechanization; training of fishermen for Marine Department certificates of competency as masters and engineers; together with the introduction of better fishing methods, are the main considerations on the marine side. The fresh-water and oyster culture section maintains close contact with local pond fish and oyster farmers, to whom advice is given and, where possible, improved methods of culture are demonstrated.

123. Close liaison is maintained with the Co-operative & Marketing Department (which administers the Fish Marketing Organization), the Fisheries Research Unit of the Hong Kong University, and with the Marine Department.

Staff

124. A new Fisheries Officer was selected early in the year to fill the post which had previously been vacant for some months. This officer, who earlier in his career had served with the Co-operative & Marketing Department, was given a refresher training course whilst on Home leave. He returned to the Colony in July.

125. Two formerly temporary Survey Assistants were absorbed into the establishment with the rank of Fisheries Supervisor Class III as from the 1st April. Two additional Fisheries Supervisors Class II were appointed in August.

126. A second crew, to work with the Fishing Master on the F.R.V. "Alister Hardy", was appointed in May.

Fisheries Stations

127. Two new field stations were established, at Taipo and Cheung Chau, in August and September, respectively.

I. Marine Fisheries Section

Fish Landings & Prices

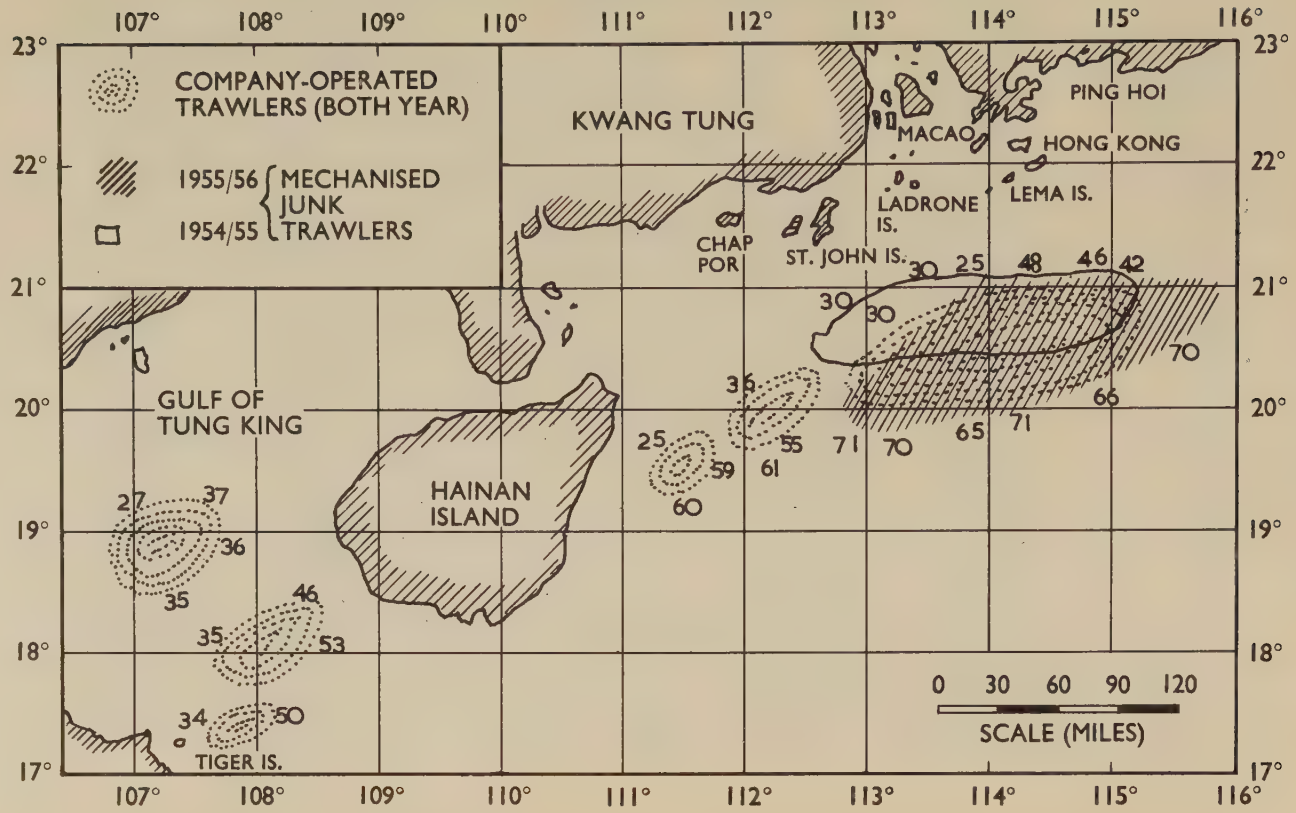
128. Figures from the Fish Marketing Organization records show that landings of both fresh and salt/dried fish were slightly lower than those of the previous year. The position is summarized in the following table:—

	Fresh Fish		Salt/Dried Fish		Total	
	Piculs (Tons)	Value H.K.$	Piculs (Tons)	Value H.K.$	Piculs (Tons)	Value H.K.$
April 1955 to March 1956	572,194 (34,059)	33,350,140	89,968 (5,355)	3,854,090	662,162 (39,414)	37,204,230
April 1954 to March 1955	588,058 (35,003)	34,649,538	98,631 (5,871)	4,804,276	686,689 (40,874)	39,453,814
Decrease in 1955/56 as compared with 1954/55	15,864 (944) 2.7%	1,299,398 3.8%	8,663 (516) 8.8%	950,186 19.8%	24,527 (1,460) 3.6%	2,249,584 5.7%

129. The drop in landings was mainly attributed to the poor seasons experienced by the purse seiner fishermen. The yield of Golden Sardines and Carangoid was much less than usual and, unfortunately, the Cuttle Fish did not appear in such large numbers as usual (whereas, in the previous year, phenomenally large quantities of Cuttle Fish had been taken).

130. Fish prices during the previous year were the lowest on record and, unfortunately for the fishermen, this trend continued during the year under review. The average price per picul for fresh fish dropped from $59.00 to $58.00 (a decrease of 1.7%) while that for salt/dried fish fell from $49.00 to $43.00 (a drop of 12.2%).

TRAWLER FISHING GROUNDS



131. More detailed information concerning landings and fish prices is contained in the annual report of the Director of Marketing.

Review of Fishing Activities

Weather

132. It was an unusual year, in that not once was the typhoon signal hoisted. The weather, however, was rarely "perfect"—either there was too much wind, or, as often happened, there was insufficient breeze for the sailing junks.

Trawlers

133. Mechanized junk trawlers had a favourable year, while the sailing trawlers were adversely affected by unpredictable winds and much restricted in their movements.

134. The larger mechanized junks have gradually extended their area of operations, so that during much of the year under review they were trawling in water of 70 fathoms depth and more. These are waters that had never previously been worked by (sailing) junk trawlers. It will be seen from the map on the opposite page however that the range of these junks must be extended still further, if they are to be enabled to fish the more lucrative waters in which the local company-operated Japanese style trawlers of better design are working.

Long Liners

135. The large long liners, all of which are mechanized, had a good year. Interference with the lines from sharks and puffers in the usual deep water grounds forced these fishermen to find new grounds. From October to January the inshore waters off Swabue were accordingly exploited as an alternative and, although the main species of fish captured varied somewhat from those normally landed, the fishermen did well.

136. Small and medium sized mechanized long liners continued to fish the new grounds (exploited by this class of Hong Kong based craft for the first time only last year) to the west of the Ladrone Islands. Except during February, when the strong winds upset operations, good catches of Conger Pike were taken.

137. Sailing long liners confined to the vicinity of the nearby Lema Islands suffered losses of gear due to sharks, especially during the summer months.

Purse Seiners

138. Very bad seasons for the capture of Golden Sardine and Carangoid Fish were experienced. Even the good Anchovie season did not fully compensate for the earlier losses. Most of the purse seine net fishermen were forced to work long lines during the day, in addition to their normal "bright light" fishing at night, in order to make a living.

139. Mechanized purse seiners based at Cheung Chau used gill nets for Yellow Croaker with satisfactory results and, during January and March, the largest of these vessels ventured into the off-shore grounds. There they did exceptionally well netting Mackerel Scad.

140. The purse seiner fishermen have, in previous years, generally followed only one form of fishing. The fact that they have now had to engage extensively in a number of other methods is indicative of the poor season.

Pa Teng

141. The Pa-Teng (big purse seine) fishermen had poor catches of Golden Sardine and Carangoid, like the smaller purse seine operators.

142. Nor was the Yellow Croaker season as good for these fishermen as it was for the smaller purse seiners. In this connexion, Pa-Teng operators complained that once they had encircled an area, the purse-seiners would enter and "pick pocket" their fish.

143. Good catches of Mackerel Scad were taken in January and March. During February, however, strong winds caused the shoals to disperse, while the rough seas made it difficult to bring the ends of the net together as this has to be done from two sampans.

Shrimp Trawlers

144. The shrimp beam trawler fishermen did well during the summer and autumn seasons in the area between the Ladrone and Lema Islands.

145. During the winter fishing for large white shrimps, for which the boats are based at Tap Mun, catches were only fair; prices however were then higher than usual.

Big Tail Junks

146. Once again, the Tai-O based Big Tail Junks experienced poor Yellow Croaker and Silver Shrimp seasons. These fishermen voiced the opinion that the muddy fresh water from the Pearl River is gradually driving away the shoals of fish that used to previously come quite close in.

147. Catches of White Herring, Thread Fin and Macao Sole were fair only.

Fishing Community and Fishing Vessels

148. A record of the number and type of fishing vessels in port over the Chinese New Year, together with an estimate of the fishing population as at that time, is contained at Appendix 10.

149. Approximately one hundred small fishing craft, mostly purse-seiners and long liners, arrived in the Colony from Communist China during September. A further group of eight such craft arrived in March. These boats applied for registration at the Marine Department and then commenced fishing in Hong Kong waters.

Analysis of Catch

150. An analysis of landings of the most important species of fish, and figures for the same species during the previous year, are set out in the table at Appendix 8.

Mechanization

151. During the year the mechanized fleet increased from 751* to 968 vessels, an increase of 217. Details are recorded at Appendix 9.

152. Although the 968 mechanized vessels comprised only 15% of the whole fleet (6,431 vessels), the landings from these vessels accounted for 59% (393,205 piculs) of the total quantity (662,162 piculs) of fish sold through the Fish Marketing Organization. The distribution between the three main categories of mechanically propelled vessels was as follows:—

	1955/56 (piculs)	1954/55 (piculs)
Trawler Company Vessels	103,146	83,413
Power Driven Native Craft	283,904	255,801
Foreign (Japanese) Landings	6,155	12,366
Total (all mechanized vessels)	393,205	351,580

C.D. & W. Loans

153. During the year twenty-nine loans, varying from $4,000 to $10,000 each, were made to fishermen from Colonial Development and Welfare funds for the purchase of engines. Another five loans of $600 each were granted for the installation of capstans. Except in the case of two fishermen who asked for extensions of time, the loan repayment instalments were quite good.

New Boat

154. The Chief Naval Architect of the Food and Agricultural Organization of United Nations visited Hong Kong in October and gave much valuable advice on the plans and construction details for a small fishing boat for the division.

* In the 1954/55 Annual Report the total number of mechanically propelled vessels was erroneously stated as being 750. This did not include one additional British registered trawler which had been inadvertantly overlooked in August, 1954.

After his departure, a local craft technician was engaged as a consultant to follow up the F.A.O. suggestions. In co-operation with the officers of the Marine Department, this craft technician produced detailed plans and a specification. Financial authority to proceed with the construction was received just before the end of the year.

155. The new boat will be approximately the same size as the existing Fisheries No. 1, which is of a slightly modified native design. It will, however, have a greatly improved hull form and embody many other changes. The boat is being built in a primitive junk building yard, under the technical guidance of the craft technician, from sectional templates. The naval architects and engineers of the Marine Department have unstintedly given of their time and knowledge to help in many ways.

156. Although the vessel will be suitable for most forms of fishing, its main purpose will be to work a large Norwegian-type purse seine net and to demonstrate the use of a mechanical net roller. A 900-watt dynamo is being fitted, so that the batteries used for under-water electric light fishing can be recharged at sea.

Fishing Investigations

157. The Fishing Master, by courtesy of the Fisheries Research Unit of the Hong Kong University, was able to use the F.R.V. "Alister Hardy" for otter trawling and Danish seining investigations while at the same time training the crews. Both Japanese and European-type otter trawls were fished. Operations were conducted over a wide area in order to ascertain the nature of the fishing grounds.

158. The 10 h.p. diesel engine originally fitted in the division's 30-foot boat "Olenka" (Fisheries No. 1) was replaced by a 22 h.p. engine in May. This boat was then employed by the Fishing Master for inshore otter and shrimp beam trawling; gear made up by the crew under the direction of the Fishing Master was used. On very few occasions were more than 6 lbs. of fish taken in one hour's towing. The scarcity of fish clearly indicates that over-fishing is taking place in the inshore waters.

159. Four European lobster pots were tried, with different types of bait, in the waters around Po T'oi Island. Results were disappointing; the best yield in one haul being only 8 lbs. of crabs.

160. The traditional method of shrimp trawling has always been to keep the mouth of the net open with a bamboo pole, and to have stones at each end to act as combined weights and runners. Two years ago the division introduced an improved arrangement whereby metal skates and iron pipes are used instead. During the year under review this extension work was continued by lending fishermen sets of the gear and by sending a member of the staff to sea in the fishermen's own boats to demonstrate its handling. Nearly a third of the large shrimp trawlers went over to using the new gear.

161. Since nylon netting was first used a year ago by the shrimp trawler fishermen, it has become increasingly more popular. Nearly all the gill net fishermen have gradually replaced their ramie nets with ones made up from monofilament nylon. Under an agreement supervised by the division, one fisherman borrowed without any obligation, for three months, a large nylon purse seine net from the local sales agents. This net was subsequently returned because, although it was lighter and easier to work than a cotton or ramie net of the same size, the colour was wrong.

Training of Fishermen

162. The division continued with its training programme designed to qualify fishermen as trawler skippers, coxswains and engineers. In each case the training is in line with the requirements of the Marine Department. Most of the instruction was given at the Aberdeen Fisheries Office where training facilities are centralized but, to meet the demand produced by a growing fleet of mechanized vessels, coxswains' classes were also conducted at the new Fisheries Field Stations at Cheung Chau and Taipo. An additional coxswains' class met, by kind permission of the "Hong Kong Fishing Junk Owners' Association", in the Association's premises at Shaukiwan.

Skipper Classes

163. At present many of the Skippers in command of the company-operated British registered steel trawlers working from Hong Kong are in possession of only temporary permission to act as Trawler Master. This permission which is valid for one year is granted by the Marine Department upon the recommendation of the Director of Agriculture, Fisheries & Forestry, following a check of each candidate's nautical knowledge. Five such candidates were examined during the year, four of which were recommended while one was rejected.

164. Although the local trawler Skippers are excellent seamen with a considerable knowledge of the distant-water fishing grounds around Hainan Island, their general standard of education is on the whole very low; many of them being completely illiterate. The task of training these men in navigation is therefore a very difficult one. It has been realized that, as was the case in Great Britain when steam trawlers began to replace the old sailing smacks, this training will have to be spread over a number of years. The Marine Department has accordingly introduced a series of qualifications, starting with that of "Acting Trawler Master (Limited)". It is for this examination that the Fisheries Division commenced training trawler Skippers in March, 1955. As at the end of the year under review, three classes had been completed and eleven candidates had successfully passed the examination.

Coxswains' Classes

165. Eleven classes, involving 127 fishermen, were organized during the year. Including candidates who had been trained during the previous year but were not examined until after the 31st March, 1955, the number that passed the Marine Department examination was 132—of which 35 obtained the full certificate for mechanized vessels of up to 60 tons net, while the remaining 97 candidates obtained the modified certificate for fishing craft of under 1,000 piculs capacity. In all, a total of 532 fishermen had received coxswains' certificates, following departmental training, since the classes first started in April, 1951.

166. No special engineering qualifications are required for fishermen operating boats with engines of under 50 b.h.p., as these vessels invariably have sails which could be used should the engine fail. A special series of lectures on small diesel engines, with particular reference to maintenance, is however included in the coxswains' courses.

Engineering Classes

167. The 5th, 6th and 7th classes completed their training during the year. All 19 students were successful in passing the Marine Department examinations and were granted certificates of competency as engineers on fishing junks with diesel engines of from 50 to 150 b.h.p.

Fisheries Exhibition

168. The 1956 Chinese New Year Fisheries Exhibition, held in the Aberdeen Fish wholesale market, was opened by His Excellency the Governor on the 11th February. This was organized by the Co-operative & Marketing Department with the help of the Fisheries Research Unit of the University and assistance from the Fisheries Division of this Department. Some 75,000 people visited the exhibition to see the diesel engines, fishing gear, navigational instruments and sea products etc., displayed by 26 commercial firms.

169. The stall of the Fisheries Division had as its centre piece a colourful display—using model ships (complete with working navigation lights), lighthouses and buoys etc.—to demonstrate the Rules for the Prevention of Collisions at Sea. Other exhibits included two half models to show the difference between the existing Fisheries Division Vessel No. 1 and the new boat; a cement pond containing living fish and miniature shrimp beam trawls; models of the various types of non-indigenous fishing gear now being gradually introduced to the local fishermen; together with maps, statistics and photographs to show the work of the Division.

170. For the first time, an extensive array of the gear and equipment used by our Hong Kong fishermen was put on display.

This gear was received, on loan, from the fishermen owners. The visitors were not the only persons interested in seeing these exhibits, and it was amusing to watch individual fishermen examining each other's equipment (all of which had been hand made) with a very critical eye.

171. Immediately after the official opening, the fishermen themselves were drawn into "their" exhibition by a series of competitions. Children under the age of 10 years, from five different districts, carried out a sampan relay race. Cast-net fishermen from Taipo, Castle Peak and Yuen Long showed their skill by seeing who could encircle the greatest number of painted cork floats in one throw. Long-liner fishermen raced to see which team could shoot, and then haul, their lines in the shortest time. These demonstrations of practical skill, organized and judged by the Fisheries Division, greatly intrigued both the floating population and the visiting landsmen. The prizes were presented by His Excellency the Governor.

Chinese New Year Celebrations

172. The annual Fisheries Division "tea party" was held in the garden of the Aberdeen Office on the 12th February. It was attended by nearly 500 fishermen, many from the outlying districts. Sampan obstacle and relay races, followed by a tug-of-war, were organized by the "old boys" of the coxswains' and engineers' classes. Prizes were donated by leading fishermen, merchants and other friends. That evening an enjoyable dinner party for 221 persons, given jointly by the fishermen and staff of the Division, was held in the office.

173. Departmental films concerning the Hong Kong fishing industry were shown before crowded audiences at the Aberdeen Fish Market during the evenings of the 11th and 13th February.

Meteorology

174. The Royal Observatory arranged, with effect from the 1st January, for the daily weather forecasts for the South China coastal waters to be broadcast, immediately after the local forecasts, over the Chinese programme of Radio Hong Kong. The

area "South China coastal waters" fortunately covers all the grounds at present fished by even the largest of our junk-type vessels. This new service is much appreciated, especially by the owners of the larger junks—nearly all of which carry wireless receiving sets.

175. Other additional weather services provided by the Royal Observatory include the introduction of a new strong wind signal to be brought into use as from the 1st April, 1956, and three warning signals to be hoisted at a number of supplementary signal stations in the small villages. These will be of great value to the fisherfolk. To provide advance notice of the new services to as many fishermen as possible, the Fisheries Division, in co-operation with the Royal Observatory, had explanatory posters printed. These were posted up at the Aberdeen Fish Market and, throughout the three days of the Exhibition, a voice recording of the details contained in the posters was played over the market public address system every two hours.

II. Fresh Water Fisheries and Oyster Culture Section

Fish Ponds

176. At the very beginning of the year conditions were really bad—due to earlier shortages of water and a failure of the season for the capture of Grey Mullet fry, which had made full scale restocking impossible. This situation was partially saved by heavy rainfall from April onwards but supplies of none of the varieties of carp fry that are normally obtained from China became readily available until July (*i.e.*, two months later than usual). To make matters worse, in the middle of July floods in the main pond fisheries areas of Yuen Long and Sha Po caused severe damage. For the remainder of the year conditions were reasonably good and the total production from the New Territories ponds amounted to some 4,950 piculs (294.6 tons) of fish, valued at $800,000. In view of the above-mentioned difficulties, these figures compare very favourably with those of the previous year—*i.e.* 5,800 piculs, or 345 tons, valued at $1,000,000.

177. As may be seen from the following table, the wholesale prices received for pond fish were slightly lower than those of the year before:—

	Average price per picul	
	1954/55	1955/56
Big Head & Silver Carp	$100 — 120	$100 — 120
Grass Carp	180 — 240	150 — 240
Mud Carp	140 — 160	120 — 160
Common Carp	160 — 200	120 — 160
Grey Mullet	200 — 300	160 — 300

178. To a large extent, and especially at the end of the year, this depression of prices was caused by the large quantities of imported fish sent in from China. (Only about 5% of the total quantity of pond fish sold in the Colony is produced in the New Territories, the remainder—anything from 100 piculs a day and upwards—being imported as "living fish" from China).

Supply of Fish Fry

179. The fry of the Common Carp (Cyprinus carpeo) was available locally as this species breeds readily in captivity. Much difficulty was, however, experienced in importing the fry of the other species required for stocking purposes. This was due to shortages in China. The fry of the Big Head Carp (Aristichthys nobilis) were not available from the interior during the year. Silver and Mud Carp (Hypophthalmichthys molitrix and Cirrhina molitorella) did not become available until July, while no Grass Carp (Ctenopharyngodon idellus) were received until August. Later in the year, Grass and Silver Carp fry could only be imported if similar quantities of the less popular Mud Carp were also taken. These difficulties naturally resulted in higher prices being asked for fish fry.

180. For the third successive year, the season for the capture of Grey Mullet (Mugil cephalus) fry—used for stocking brackish water ponds—was a failure. Once again, this was thought to be due to the fact that there was insufficient fresh

water entering the sea from the streams of the New Territories during January, February and March, to induce the fry to follow their usual habits and come close inshore. Another possible explanation for the scarcity of fry may well lie in the use of dynamite, an illegal practice which is, unfortunately, common among the Colony's fisherfolk. Normally some 2,400,000 Grey Mullet fry are needed fully to stock the ponds. This year (1956) only about 384,000 fry were captured and many of these proved to be mullet of other varieties, which died on being put into the ponds. The price of Grey Mullet fry rose to an all-time high record of $3.50 per tael (*i.e.* 60 fry each of one inch in length).

Increase of Fish Ponds

181. Only two new ponds were put into operation during the year. One was an old and disused fresh water pond of 4 dou chung (0.65 acre) in Ping Chia Village, Ta Ku Ling district; this was repaired and stocked with Grass and Silver Carp. The other was a new brackish water pond of 15 dou chung (2.5 acres) built by the "Lantao Development Co.". The total area devoted to fish pond culture is now 498.4 acres.

182. Valuable assistance in the form of free gifts of cement from the Kadoorie Agricultural Aid Association, was provided for the re-building of the pond at Ping Chia and also to the village owners of the co-operatively managed pond at Luk Keng. The K.A.A.A. made a loan of $500 to the villagers of Mai Po, to purchase fish fry. The Association sent pumps out on loan to fish raisers when the water levels in their ponds fell below the accepted safety levels.

183. Although Crown land had previously been reserved, it was not possible to construct the experimental ponds for the fisheries division—mentioned in last year's annual report—as funds could not be made available. Money for this purpose has, however, definitely been provided in the 1956/57 Budget.

Fish Fry Export

184. Fish fry dealers exported a total of 23,397,683 fry (as compared with 25,146,950 during the previous year) to Formosa, Singapore, Bangkok and Tokyo. Of this figure, 18,325,550 fry

were despatched during the period July to September while there was little difficulty in obtaining supplies from China. Exports during the rest of the year were effected only with considerable difficulty.

Oyster Culture

185. The edible oyster industry is centralized in Deep Bay on the western coast of the New Territories. Total production from this area amounted to 15,763.2 piculs (938.3 tons) of fresh oyster meat, valued at approximately H.K. $1,300,000. (Figures for the year before were 18,115.3 piculs—*i.e.* 1,078.3 tons—valued at H.K. $1,400,000). The bulk of this oyster meat was processed, mostly for export to America, and details of this are recorded below:—

(1 picul = 133 lbs.; 16.8 piculs = 1 ton)

	Fresh Oyster Meat (piculs)		Dried Oysters (piculs)		Oyster Juice (piculs)	
	Local Consumption	For Processing	Local Consumption	Export	Local Consumption	Export
1st April 1955/31st March 1956	1,200	14,563.2	935.5	535.1	200	1,083.9
Total Production	15,763.2 (938.3 tons)		1,470.6 (87.5 tons)		1,283.9 (76.4 tons)	
Approximate Value	H.K.$1,300,000 (GB £81,250: 0: 0)					

186. Prices obtained for fresh oyster meat remained, as in the previous year, between $80 to $100 per picul. Exporters, however, received only $700 to $1,200 per picul for their dried oysters (as compared with $800 to $1,600 in the previous year); while prices for oyster juice dropped from $520 to $630 in 1954 55 to $510 to $600 during the year under review.

Oyster Culture Extension Work

187. In May, 1954, one of the more progressive Deep Bay oyster farmers had been persuaded to finance a small pilot experiment to try out the Japanese "hanging-drop" method of culture. This proved a success.

188. During the following April, three areas of 10 acres each were acquired by the division in Deep Bay, to continue this earlier experimental work on a larger scale. At the same time, the headquarters of the Fisheries Supervisor concerned with pond fisheries and oyster culture was moved from Kam Tin to Lau For Shan—main centre of the Deep Bay oyster industry—so that this officer should be on the spot at all times. A number of wooden and cement concrete stands, together with bamboo rafts, were made and secured in position. Old oyster shells, mounted on lengths of galvanized iron wire, were then suspended in the sea. As in the 1954 pilot experiment, it was again found that the oyster spat which settled on the "drops" did better than those cultivated on rocks by the primitive method normally practised here. One of the many advantages of the improved method of culture is that the clusters of oysters, growing on the "drops" of old shells, can be readily spaced out to provide freedom for unrestricted growth. It is hoped that these measures will result in it being possible to harvest in 2 - 2½ years instead of waiting the customary 4 years. Oyster farmers watched the experiments with close interest. Reports were received to the effect that the improved method had been copied, and adopted by our neighbours.

189. During December, a small raft was put down near Centre Island, in the Tolo Harbour area, where it is hoped that it will prove possible to start an edible oyster industry. Six-month old oysters were transplanted from Deep Bay and suspended under this raft. The oysters have, so far, managed to survive the change in environment and, although their growth has not continued to be quite as spectacular as it was in the beginning, the indications are that the experiment may prove a success.

190. The work on oysters at both Deep Bay and Tolo Harbour is being undertaken as a joint project with the Fisheries Research Unit of the Hong Kong University.

Agricultural Show

191. At the annual Agricultural Show, held in Yuen Long during January, the division exhibited models of the Japanese

"hanging-drop" method of oyster culture. Specimens of the main species of fish farmed in the fish ponds of the New Territories were displayed in a cement pond beneath a fountain. A number of particularly beautiful gold-fish which had been received on loan from the breeders, and which were held in specially constructed tiers of aquaria, attracted much attention.

Certificates of Origin

192. Much time was devoted by officers of the division to checking and issuing certificates of local origin for various marine products. These exports included oysters, quick-frozen prawns, several forms of processed shrimps and canned "Spotted Fish". Details are summarized in the following table: —

TABLE

Certificated Exports of Marine Products

	1954/55	1955/56
Oyster		
(*a*) Dried	49,336½ catties	53,513½ catties
(*b*) Juice	145,069½ ,, (4,834 seals)	108,391½ ,, (4,104 seals)

Processing is carried out at Lau For Shan, Deep Bay, where containers holding the produce are sealed by officers of the Fisheries Division.

Quick-frozen Shrimps and Prawns		
Quantity	—	63,895¾ catties
Value (H.K.$)	—	$132,414.19
Silver Shrimp converted into sauce and paste		
Quantity	50,122 catties	116,791 catties
Value (H.K.$)	$21,238	$ 42,555.87

	1954/55	1955/56
Fresh Shrimp converted into shrimp slices and noodles.		
Quantity	11,475 catties	10,398 catties
Value (H.K.$)	$ 25,040	$20,814.70
Canned "Spotted Fish" (*i. e.* the brackish water Walking Goby-Boleophthalmus chinensis).		
Quantity	59,064 catties	36,315 catties
Value (H.K.$)	$118,128	$83,770.53

193. The trade in quick-frozen prawns is an important new development. The shrimping grounds are quite close to Hong Kong with the result that local shrimp trawlers make only very short fishing voyages and the shrimps and prawns are landed in an absolutely fresh condition. Leading traders shipped a few small sample consignments to America in 1954/55. These resulted in orders being received for as many quick-frozen prawns as the Colony could supply. This industry is expanding rapidly.

PART 5

FORESTRY DIVISION

Acting Forestry Officer: Mr. R. J. V. Everest

Introduction

194. Over three quarters of the land area of Hong Kong and Kowloon and the New Territories is steep and mountainous. The natural vegetation is predominantly grass with scattered areas of scrub and scrub forest in the remote and inaccessible areas. Some of the land is used by the local villagers for grass cutting and forestry. Hill fires occur annually destroying vegetation and in some areas there is serious soil erosion.

195. The following is a statement of areas under forest management at present:—

Shing Mun Catchment area	23 compartments	6,025 acres
Tai Lam „ „	20 „	3,269 „
Kowloon Hills „ „	7 „	953 „
Kowloon Hills	undivided	865 „
Taipo Kau „ „	10 compartments	693 „
Pat Heung „ „	undivided	2,138 „
Lantao Catchment area	undivided	300 „
	Total	14,243 acres

All the above forestry areas require afforestation. There are many other areas at present being considered for forestry.

Afforestation

Seed Supplies

196. All the seed for afforestation purposes and forestry lots was of local origin and only small quantities of seed were obtained from abroad for trial purposes. As in the previous

year it was impossible to obtain seeds from China. Collection of seeds of Pinus Massoniana continued locally: the total amount collected being 274 lbs. as compared with 631 lbs. during the year 1954/55.

Nurseries

197. During the year the new Tai Lung Central Nursery was completed and is under full production at the present time.

198. In the meantime, temporary nurseries throughout the New Territories were expanded and tree seedlings were raised for the coming year planting season.

Plantations

199. A planting programme was drawn up to establish about 850 acres of new plantations in 1955. In order to spread the annual planting area more evenly it was necessary to find new areas for afforestation in the Saikung Peninsula area where little work was done in the past; and a new reserve to be known as Pat Heung Forest Reserve has been formed. This lies in the indirect catchment area of Tai Lam Chung Reservoir above Sek Kong. The catchwaters have not been built yet but it is obviously desirable to proceed with afforestation as early as possible. A number of forestry lots covered most of the area but with the help of the District Officer, arrangements were made with the villagers for the sections of the lots above the catchwater to be cancelled and in return the villagers will be assisted to plant up the sections below the catchwater as private forestry lots. A compartment system for this reserve has been sketched and paths are being constructed. The following is a brief account of work carried out in the main afforestation areas:—

(i) *Tai Lam Chung*

200. A total of 104 acres of new plantation were formed in compartments 1, 2, 3, 4, 5, 6, 7, 17 and 18. A 25-acre plantation of Casuarina was started in compartment 3 and also an area of Eucalyptus and Sapium. Pine work was concentrated mostly in the badly eroded areas of compartments 5 and 6. Because

of losses during drought periods, repeated replanting was necessary; a pit sowing area was started but discontinued when it became apparent that the weather was not suitable for pit sowing. 168 acres of previous year's plantation were replanted.

(ii) *Shing Mun*

201. New planting was carried out in compartments 1 and 17, and a total of 71 acres was completed mostly of Casuarina and Eucalyptus. 150 acres of replanting was done in compartments 2, 6, 14 and 21. It was not possible to finish all the replanting due to the unfavourable weather. As the weather was unfavourable, 2 seedlings were planted in each pit and some watering was done during the hot weather. Results have been moderately good under the circumstances. Replanting was also done in the Casuarina plantations in compartments 1A and 15. Pine thinning was started in compartment 15 in pine established by sowing or broadcasting 3 to 4 years ago.

(iii) *Other Areas*

(*a*) *Kowloon Hills*

202. 40 acres of Casuarina and Eucalyptus plantations were formed in compartment 7, the Casuarina in particular are looking very promising. Also 6 acres of Casuarina were added in compartment 7B and failures were replaced. This area is looking very promising and many of the trees are already 4 - 5 ft. in height.

(*b*) *Pat Heung Forestry Reserve*

203. This being a new reserve, it was possible to concentrate on new planting only. Large areas of pines were established by planting and pit sowing and a few small plots of various species were also planted. The total area planted was 306 acres in compartments A, B, C and D. In compartments A and B, 32 acres of Casuarina stricta were added. Tending and fertilizing of all this year's plantations was also carried out and some replanting was done.

(c) *Castle Peak Forest Reserve*

204. 28 acres of plantations were formed in compartments 1 and 2 using pine and a variety of species

Forestry Lots

205. Interest in the forestry lots scheme is now spreading to other areas of the New Territories and there have been many inquiries. In the Castle Peak area a number of village nurseries have already been started. In the Pat Heung area villagers have agreed to planting and management of their forestry lots with departmental supervision and assistance. In the Saikung area 66 acres of new plantations were formed and 60 acres of the previous year's plantations were replanted, and 125 acres in lots adjacent to Pat Heung Forest Reserve were also planted. For the first time, therefore, planting under the forestry lots scheme was done in Taipo and Yuen Long districts. The main species used was pine, but some areas of Eucalyptus and Casuarina were planted in Saikung area. Although some private owners are still reluctant to join the scheme, there is generally a growing demand for planting.

Roadside and amenity planting

206. Planting and replacement of roadside trees in the urban and rural areas also at various resettlement areas was carried out. The total number of trees planted was 19,273.

Protection

(a) *Forest Offences*

207. The policy of complete protection of the vegetation in water catchment and forest areas was continued. In the New Territories foresters are still engaged on protection work. Arrests are no longer made in the more trivial cases and it is the duty of the protection staff to prevent widespread cutting for profit which, would be likely to lead to complete destruction of the vegetation, rather than to arrest local villagers who cut a small amount of tree wood for fuel for their own use. Also the foresters as part of their everyday work have to keep an eye on illegal woodcutting and to prevent any large scale destruction of the vegetation throughout the Colony.

208. A total of 203 persons involved in 149 cases were arrested as compared with 507 persons arrested in 1954 55.

(*b*) *Fire*

209. Early this year it was appreciated that with increasing areas of young plantation there would be more likelihood of extreme danger of fire that a new fire control plan would become necessary. Fire is a difficult problem which it is hoped to overcome by better communication through field telephones and radio sets. For quicker communication in case of fires, eight field telephone sets and four drums of telephone wires have been purchased from the Army. Twelve RT sets were obtained and 16 portable knapsack Indian fire pumps were received from the U.S.A. for trial.

210. The introduction of RT sets for communication in fire control has proved of great value to the Forestry Division. When the Hazard Fire Index is high, all supervisors equipped with RT sets take positions at various operational posts in Kowloon and New Territories and relay messages concerning fire outbreaks to Shing Mun where messages are received on RT sets and the public telephone system to Forestry Headquarters.

211. A master map is being prepared covering the whole of Kowloon, the New Territories and Hong Kong showing each compartment, radio operation posts, field telephone lines and forestry outposts. When a fire occurs it can be plotted on the map and it will quickly be seen what action should be taken and what operational unit to contact.

212. The total number of fires was 121 as compared with 433 in 1954/55.

213. An index explaining how the danger of fires is kept under control by the Division is as under. Fire control measures must be scaled according to the danger and for this reason forecasting of the daily fire hazard is required. To meet this need, a Daily Fire Hazard Index is computed in the Headquarter office using Forest Fire Danger Tables prepared by the

Canadian Forest Service, which have been found to be fairly effective under local conditions. The following are the factors on which the tables are based:—

(1) Relative Humidity at 10.00 hours.

(2) Rainfall during the past 24 hours.

(3) Days since rain of .02".

(4) Forecast wind.

(5) Percentage of green grass.

The information from 1 to 4 is provided by the Royal Observatory but information on the percentage of green grass must be obtained from observations made throughout the New Territories.

Fire Risk

214. The following table shows the relationship of the Hazard Index to the Fire Risk:—

Hazard Index	*Fire Risk*
0—2	Nil
3—6	Low
7—9	Moderate
10—12	High
13—16	Extreme

The risk appears to be highest during the afternoon, nearly 60% of the fires occurring between mid-day and 4 p.m. It is interesting to note too that more fires occur in the late evening from 6 p.m. to 8 p.m. than in the morning from 8 a.m. to 10 a.m. No precautions whatsoever are necessary when the risk is low; ordinary precautions should be taken when the Index reaches 7 and a few additional precautions when the Index reaches 10*.

* Forestry Division is on the alert. All supervisors on motor-cycles and 48 R.T. sets take up O.P. in various districts. These positions are allotted to them by the Forestry Officer.

When the Index reaches 13 the risk is very high indeed (at Index 16 it may be as much as 10 times the moderate risk) and all staff should stand by for fire duty.

215. The Hazard Fire Index Chart is as follows:—

Hazard Index	*No. of days*	*No. of fires*	*No. of fires per day*
0	60	2	0.03
1	4	0	0.00
2	3	0	0.00
3	40	3	0.75
4	10	6	0.6
5	25	5	0.2
6	21	5	0.24
7	27	20	0.74
8	78	59	0.76
9	42	60	1.42
10	31	48	1.54
11	16	36	2.25
12	3	7	2.33
13	5	14	2.8
14	1	1	1.0
15	0	0	0.0
16	0	0	0.0
Total:	366 days	266 fires	

Forest Pests

216. There was an outbreak of pine defoliating caterpillars in Fanling district. Experimental spraying of affected trees with a solution Endrin was carried out by the pest control unit of the Department and satisfactory results obtained; spraying of this sort on a large scale would be expensive but it might be possible to check attacks in early stages by this method. Grasshoppers caused some damage to Casuarina in the Pat Heung Forest Reserve by eating the needles. There were some troubles with insect and fungus pests at Tai Lung nursery; routine spraying with insecticide and fungicide was carried out.

Other Injuries

217. Record low temperatures were recorded at Tai Lung nursery during the month of January and a few plants suffered from this cold spell. In some cases young trees were killed altogether but, in general, the damage was negligible.

Communications and Buildings

218. Existing paths in forest areas were maintained. Construction of new paths continued in Shing Mun and Pat Heung Forest Reserves, and a total of over 7 miles of new paths was completed. A new path was started in compartments 12, 13 and 14, Shing Mun running approximately along the 550 metre contour. The object of these paths is to make forest areas more accessible not only for planting but also for easy fire control.

219. All buildings and constructional work were carried out departmentally. The office and glass house were nearly completed. A new large store building was completed. At Ho Chung (Saikung area) the building of an outpost and washroom was completed. The erection of the Arkon Steel Shed has been completed.

220. A new fire lookout at Golden Hill is completed. The purpose of this lookout is for 2 men to be stationed there on 24 hours fire duty during the dry season.

Timber Trade

221. The timber trade is entirely in the hands of private firms without Government restrictions. A summary of imports and exports of timber is given in Appendix 11. Export means re-export of imported timber as there is no export of locally grown timber.

222. In recent months a considerable export trade of graded timber has developed and orders have been placed from Australia, U.S.A. and United Kingdom and other countries. At present exports are restricted by the capacity of the small local saw mills and the acute shortage of seasoning space but some exporters are now planning to erect their own mills and to

provide adequate storage space for seasoning. Arrangements were made for candidates from 4 local firms to go to Malaya and Singapore for training as Timber Graders.

223. Hong Kong is well placed to obtain logs from the Malayan region or from the Philippines. Labour is cheap and there is the added advantage that the poorer quality timbers after grading can be disposed of on the local market. There is a growing demand for certificates to be issued by the department to the effect that export consignments are free of live borers, as many foreign markets require such certificates.

Research and Education

224. Investigation and small-scale experiments in silviculture were continued during the year, and seeds of new species were obtained from abroad and trial plots planted in various localities.

225. It has been found that the use of bare root pine transplants is only a success if the weather is favourable. The planting of pine seedlings in tubes is most successful, the survival rate is from 90% to 100%.

226. It is now more or less established that Eucalyptus Robusta is not a suitable species for the majority of sites available for planting. Another matter of interest is the variation in results with pines. At Castle Peak Model Plantation pine of only 2½ years old is already 6′ to 8′ high in some cases and very well established, whereas, in Saikung Model Plantation, pines 3½ years old are still not completely established and are generally only 1′ to 2′ high; other pine areas fall between the two extremes. Promising species under trial are Tristania conferta, Casuarina equisetifolia and Castanopsis fissa and, of recent introduction, Fraxinus uhdei and Mahogany (Swietenia mahogani) which are giving good results.

227. Seeds of Libocedrus formosana, Pinus Taiwanensis, Pinus formosana and Chamaecyparis were received from the Bureau of Forestry, University of Taiwan, for species trial.

228. An experiment to test the effect of Hortomone A on the rooting of cuttings was completed and it was found that although this product is helpful in reducing the period required for rooting, it does not greatly increase the percentage of success with species which are usually difficult to propagate from cuttings.

Miscellaneous

229. At the 1956 Agricultural Show a forestry exhibit was prepared as in previous years, including indoor exhibits of models and photographs illustrating afforestation work in progress; the value of forestry in erosion control and water supplies, and the benefits of village forestry were particularly stressed.

230. The Division continued to fell and prune trees where necessary and to clear building sites. Wood from this source was sold by tender.

231. Details of revenue from this source and from the sales of trees to the public are given at Appendix 11.

232. The sale of decaying or over-matured camphor trees in the New Territories was continued and a total of $85,812.00 was obtained for village improvement works.

233. The Forestry Officer attended the Third Meeting of the Asia Pacific Forestry Commission which was held in Tokyo in April and toured forest areas in North Japan after the conference.

PART 6

FINANCE AND SPECIAL FUNDS

Revenue

234. Total revenue for the year amounted to $512,643.58 as compared with $351,477.80 for 1954/55. The main increase was due to the fact that fees for the licensing and inoculation and feeding of dogs in urban areas collected throughout the year had been included, whereas only those collected during the second-half year of 1954/55 were shown in the last financial year.

235. The revenue collected for sale of farm produce was increased due to more pigs being sold as a result of culling of Government stock.

236. Receipts for services rendered to farmers on livestock disease control were also increased as larger quantities of Newcastle and Swine Fever vaccines were obtained from Thailand in addition to the usual supplies from Malaya. More pigs and poultry were as a result inoculated against these diseases.

237. By arrangements with the Director of Urban Services, the sale of meat and bone meal as a by-product of the Hong Kong and Kowloon Slaughter-houses was undertaken by this Department during the year and $73,990.00 worth was sold through this Department.

238. An official fee was introduced in September, 1955 for the issue of Inspection Certificates by the Forestry Officer to timber merchants, and a total of $792.31 was collected during the year for this service.

Expenditure

239. Total expenditure under Personal Emoluments amounted to $1,595,389.44 as compared with $1,136,573.00 for the previous year. The increase was caused by the inclusion of

salaries and allowances for veterinary staff for the whole year, instead of only half a year during 1954/55, and as a result of Government's policy to transfer all daily-rated staff who had completed five years' satisfactory service to monthly pay.

240. Total recurrent expenditure amounted to $967,877.84 as compared with $1,073,675.82 for the previous year. Decrease was mainly due to the transfer of daily-rated staff to monthly pay, and the reduced amount of feed required for livestock, reduced due to culling.

241. Total non-recurrent expenditure amounted to $253,167.81. A revote of over $65,000.00 was necessary as several projects were not completed due to non-delivery of stores and equipment already ordered at the close of this financial year.

242. Detailed statements of Revenue and Expenditure are attached at appendixes 1 and 2 respectively.

Loans to Fishermen

243. During the year, 37 applications for loans amounting to $224,500.00 to mechanize fishermen's vessels were approved. One was withdrawn by the applicant after approval and 29 loans amounting to $169,300.00 were actually paid. Payment for the remaining 7 loans were kept in abeyance pending installation of engines and licensing of the mechanized vessels by the Marine Department. 7 applications totalling $85,000.00 were rejected mainly on account of poor records of fish landings and the financial instability of the fishermen. 11 applications were still under consideration as at the end of the year.

244. Total repayments received from fishermen were $164,754.65 out of which $2,553.50 were used to pay, on behalf of fishermen, premia for renewal of their insurance policies for engines; a sum of $480.00 was also paid for the repair of a fisherman's engine. A total of $281,800.43 had now been repaid by fishermen, against $490,066.00 issued from C.D. & W. Funds. 16 loans were fully repaid during the year, bringing the number of fully repaid loans from the beginning of the scheme to 18. Two loans due in March, 1955 had been granted a year's extension for repayment.

245. Interest earned during the year amounted to $12,612.07 bringing the total of interest earned from the beginning of the scheme to $21,384.14. Interest was charged on the daily closing balance of the borrower's account at 6% per annum, chargeable half yearly, for loans issued before 1st August, 1955, but for loans issued after that date, interest was charged on the mean maximum monthly balance at 6% per annum, chargeable half yearly. A statement of accounts for the year on this C.D. & W. Scheme is attached at appendix 3.

Kadoorie Agricultural Aid Loan Fund

246. This Fund was inaugurated during July, 1955 by the Kadoorie Agricultural Aid Loan Fund Ordinance 1955 (No. 25 of 1955). Half of the Fund of $500,000.00 was subscribed by Mr. Lawrence Kadoorie, Chev. Leg. Hon. and Mr. Horace Kadoorie, O.B.E., Chev. Leg. Hon. and the other half by Hong Kong Government.

247. The Director of this Department, as Trustee of this Fund, and Messrs. Lawrence and Horace Kadoorie are permanent members of the Committee and three members of the Department are appointed by the Governor as members for the administration of this Fund. Mr. S. C. Tong, Executive Officer Class I, acts as Secretary and Accountant.

248. A total of 16 meetings were held by the Committee and for the period, 8th July, 1955 to 31st March, 1956, 2,190 applications totalling $1,021,840.60 were considered by the Committee and 1,742 loans amounting to $386,850.60 were approved. $334,253.34 were actually paid to 1,109 farmers for 1,272 projects and $31,656.94 received as repayments before 31st December. A statement showing amounts issued and repaid and the various types of activities for which loan money has been used is attached at appendix 5.

249. The Director of Audit was appointed by His Excellency the Governor, under Section 11 (i) of the Ordinance to be the Auditor of the Fund and a certified statement of accounts as at 31st December, 1955 is attached at appendix 4.

250. In addition to loan applications, the Committee also considers and renders advice to the Kadoorie Agricultural Aid Association on applications for free gifts to farmers for village projects. A schedule of gifts recommended by the Committee during August, 1955 to March, 1956 is attached at appendix 6.

Certification of Local Farm & Fisheries Produce

251. The Department continued to certify the local origin of farm and fisheries produce for export to U.S.A. and other countries. 1,468 certificates (covering produce worth over $4,000,000) were issued during the year for exports to the U.S.A. and 109 Certificates were issued for exports to other foreign countries. Total revenue received for this service amounted to $29,227.60. A schedule of produce certified for export is attached at appendix 7.

ACKNOWLEDGMENTS

252. It is with much pleasure that the following acknowledgments are made. To those members of the public who served on the Agricultural Show Committee or otherwise assisted. To the District Administration, Public Works and Marketing Departments for close co-operation on mutual problems. To the Kadoorie Agricultural Aid Association for its generous assistance to farmers. To the United States, Netherlands, Japanese Consulates General and Thai Consulate for making available technical information and statistics from their respective countries. To the Fisheries Research Unit for professional advice freely given. To my competent and loyal staff who have worked hard and well in the interests of the primary producer.

J. C. Rix, T.D., M.R.C.V.S.,
Actg. Director of Agriculture,
Fisheries & Forestry.

APPENDIX 1

REVENUE

Agriculture and Animal Industry:	
Sale of Farm Produce	$116,010.07
Livestock Disease Control	34,313.75
Dog Licensing and Inoculation Services	160,264.00
Receipt for feeding of dogs & cats under quarantine or observation	35.257.00
Fees for leg-banding of Ducks for Certificates of Origin for export	25,123.60
Fees for Official Certificates of Health for animal and by-products	17.937.00
Sales of Slaughter-houses By-product on behalf of the Urban Services Department	73.990.00
Sales of Sera and Vaccine	3,517.00
Fisheries:	
Fees for Sealing Fisheries Products for Certificates of Origin for export	1,104.00
Forestry:	
Sales of Christmas Trees	13,640.00
Sales of Fire-wood	11,367.02
Sales of Tree seedlings	16,327.83
Fees for Inspection of Timber for export	792.31
Total	$512,643.58

APPENDIX 2

EXPENDITURE

	Agriculture	Animal Industry	Fisheries	Forestry	Total
	$	$	$	$	$
Personal Emoluments	—	—	—	—	1,595,389.44
ii Recurrent :—					
Afforestation	—	—	—	59,942.92	59,942.92
Amenity Planting, Brushwood Clearance & Main. of Forest Areas	—	—	—	55,274.83	55,274.83
Christmas Trees	—	—	—	10,688.85	10,688.85
Compost Production	3,785.20	—	—	—	3,785.20
Daily-rated Staff	125,477.58	19,499.82	1,115.26	99,802.77	245,895.43
Entertainment Expenses, Fuel, Light & Power, Incidental Expenses & Publications	9,006.45	2,376.83	2,558.38	3,759.08	17,700.74
Feed for Livestock	—	97,548.55	—	—	97,548.55
Fisheries Expenses	—	—	7,165.72	—	7,165.72
Forestry Lots in N.T.	—	—	—	49,600.21	49,600.21
Livestock Disease Control & Quarantine Measures	—	118,345.21	—	—	118,345.21
Main. of Agricultural Stations	53,210.79	1,846.51	—	—	55,057.30
Main. of Outposts, Buildings & Quarters	9,152.44	5,477.50	—	16,278.71	30,908.65
Plant Pest Control	8,435.64	—	—	—	8,435.64
Rent of Offices, Quarters & Stations	18,908.02	—	—	540.00	19,448.02
Running Expenses of Vehicles	8,993.11	6,774.38	545.10	10,784.74	27,097.33
Stores & Equipment & Uniforms	26,629.28	14,656.88	8,839.00	39,251.28	89,376.44
Subsistence Allces. & Travelling Expenses	25,665.70	25,951.90	5,728.10	14,261.10	71,606.80
Total	289,264.21	292,477.58	25,951.56	360,184.49	967,877.84
iii Non-Recurrent :—					
Agricultural Show	46,233.49	—	—	—	46,233.49
Fisheries Exhibition	—	—	990.05	—	990.05
Experimental & Extension Projects	—	—	13,562.62	—	13,562.62
Forestry District Headquarters.	—	—	—	100,545.65	100,545.65
Motor Transport	34,476.79	—	2,460.15	37,919.92	74,856.86
Photographic Equipment	1,180.00	1,179.00	1,179.00	1,178.66	4,716.66
Purchase of Livestock	—	12,262.48	—	—	12,262.48
Total	81,890.28	13,441.48	18,191.82	139,644.23	253,167.81
Grand Total					$2,816,435.09

COLONIAL DEVELOPMENT & WELFARE SCHEME D. 1967

Loans to Fishermen

Statement of Accounts for the year April, 1955 to March, 1956

Income & Expenditure Account for year 1955/56

DEBIT		CREDIT	
To Surplus C/F to Balance Sheet	$12,612.07	By Interest on Loans for year 1955/56	$12,612.07

Balance Sheet

as at 31st March, 1956

LIABILITIES			ASSETS		
Colonial Development & Welfare Scheme :—			*Fishermen's Fund :—*		
Brought forward	$319,390.75		Cash in hands of Fish Marketing Organization	$ 15,093.39	
Loans made during 1955/56	170,675.25	$490,066.00	On Deposit with Accountant General	266,707.04	$281,800.43
Surplus & Deficit Account :—			*Outstanding Loans to Fishermen*		229,649.71
Brought forward	$ 8,772.07				
Surplus for 1955/56	12,612.07	21,384.14			
		$511,450.14			$511,450.14

KADOORIE AGRICULTURAL AID LOAN FUND

Statement of Accounts for the Inaugural Period 8th July, 1955 to 31st December, 1955

Income and Expenditure Account

EXPENDITURE		INCOME	
To Balance transferred to Trust Fund	$1,364.58	By Interest on Current Bank Account	$1,364.58

Balance Sheet

as at 31st December, 1955

LIABILITIES			ASSETS		
Trust Fund :—					
Donated jointly by Mr. H. Kadoorie, O.B.E., Chev. Leg. Hon. & Mr. L. Kadoorie, Chev. Leg. Hon.	$250,000.00		Cash at Bank.....		$288,235.52
Donated by Hong Kong Government.....	250,000.00		*Loans Outstanding :—*		
Transferred from Income & Expenditure Account :—			Loans issued during period ended 31.12.55.....	$223,570.00	
Balance at 8.7.55	Nil.		*Less* Repayments during period ended 31.12.55.....	10,440.94	
Add Surplus for period ended 31.12.55	$1,364.58		Balance outstanding at 31.12.55.....		213,129.06
Balance at 31.12.55	1,364.58	$501,364.58			
		$501,364.58			$501,364.58

NOTE: In accordance with the provisions of the Kadoorie Agricultural Aid Loan Fund Ordinance, 1955 (No. 25 of 1955), the cost of administering the Fund has been defrayed out of the general revenue of the Colony and no interest has been charged on any loan made under Section 6 of the Ordinance.

Certified Correct.

10th March, 1956.

(Sgd.) W. J. BLACKIE,
Trustee.

The above Statement of Accounts has been examined in accordance with Section 11(1) of the Kadoorie Agricultural Aid Loan Fund Ordinance, 1955. I have obtained all the information and explanations that I have required, and I certify, as a result of this audit, that in my opinion the Statement is correct.

28th March, 1956.

Sgd.) F. E. L. CARTER,
Director of Audit.

APPENDIX 5

K.A.A. LOAN FUND

Loan Statement as at 31.3.56

No. of Projects	Purpose	Total amount issued	Total amount repaid	Balance outstanding
374	Livestock Purchase & Housing	$152,870.00	$ 3,675.00	$149,195.00
327	Livestock Feed	142,180.00	19,300.00	122,880.00
31	Building materials	5,760.00	2,648.00	3,112.00
6	Land Development	2,850.00	120.00	2,730.00
525	Seed & Fertilizer	30,063.34	5,533.94	24,529.40
9	Plant & Pest Control	530.00	380.00	150.00
1,272		$334,253.34	$31,656.94	$302,596.40

APPENDIX 6

K.A.A.A. GIFTS RECOMMENDED UP TO 31st MARCH, 1956

Cash to 25 Villages	$20,923.15
Cement for 52 Villages	14,796 bags
Pigs to 25 Farmers	82 Nos.
Citrus trees for 1 Village	300 Nos.
Pigsties to 1 Farmer	5 Nos.
Cattle to 1 Farmer	1 No.
Feed to 5 Farmers	5 piculs
Piping for 1 Village	300 ft.

APPENDIX 7

CERTIFIED FOR EXPORT TO U.S.A.

Varieties	*Weight (catties)*	*Estimated Value $*	*No. of Certificates (160C)*
White Cucumber	140,913	38,500.00	37
Taro	149,146	45,400.00	53
Ginger	434,224½	220,000.00	96
Lotus Root	166,835	61,100.00	46
Bitter Cucumber	8,270	3,300.00	8
Waterchestnut	2,911,823½	1,065,300.00	389
Mustard	154,319	16,300.00	22
Yam	105,988	38,500.00	44
Radish	77,345	8,600.00	12
Arrow Head	126,471	68,800.00	47
Turnip (Tai Tau Tsoi)	366,046½	76,000.00	62
Turnip (Jar Tsoi)	68,868	16,400.00	13
White Cabbage	479,763	55,900.00	64
Japanese Apricot	37,365	22,700.00	9
Lychee	983,728	394,500.00	125
Wongpei	74,862	39,500.00	17
Lemon	84,214	42,300.00	27
Oyster Juice	104,221	580,800.00	131
Dried Oyster	48,540	362,000.00	103
Spotted Fish	36,315	83,800.00	22
Silver Shrimp	29,099	10,600.00	46
Frozen Shrimp	63,895¾	132,400.00	33
Fresh Shrimp	8,748	17,500.00	62
No. of Ducks Leg-banded	135,561	No. of Leg-bands removed	106,373
Approx. value of Ducks exported		851,000.00	
Total		$4,251,200.00	No. of 160C 1,468

CERTIFIED FOR EXPORT TO COUNTRIES OTHER THAN U.S.A.

Varieties	*Weight (catties)*	*No. of Cert. of Origin Issued*
White Cabbage Seed	4,928	4
Mustard Seed	2,499	2
Silver Shrimp	87,692	2
Fresh Shrimp	1,650	2
Dried Oyster	162½	3
Seagrass	319,446 (lb.)	96

APPENDIX 8

LANDINGS OF THE MAIN SPECIES OF FISH MARKETED IN 1955/1956 & FIGURES FOR THE SAME SPECIES DURING THE PREVIOUS YEAR

English Name	Scientific Name	Landings in Piculs		Difference	
		1955/56	1954/55	Increase	Decrease
1 Golden Thread...	Synagris virgatus (Houttuyn)	87,400	75,027	16.5%	—
2 Conger Pike	Muraensox Arabious (Bloch & Schneider)	41,526	33,955	22.3%	—
3 Lizard Fish	Saurida Tumbil (Bloch)	41,387	41,936		1.3%
4 Red Sea Bream...	Tauris tumfrons (Schlegel)	39,800	28,080	41.7%	—
5 Anchovies	Stolephorus sp.	28,796	24,800	16.1%	--
6 Red Snapper.....	Lutjanus erythropterus	25,293	14,997	69.7%	—
7 Yellow Croaker...	Pseudosciaena crocea (Richardson)	25,096	27,505	—	8.9%
8 Croaker	Argyrosomus sp.	24,943	25,082	—	0.6%
9 Hair Tail.....	Trichiurus haumela (Forskal)	22,232	19,380	14.7%	—
10 Red Goat Fish...	Upeneus moluccensis (Bleeker)	20,124	22,446	—	10.3%
11 Mackerel Scad ...	Decapterus lajong (Bleeker)	16,058	19,593	--	18. %
12 Horse Head	Branchiostegus japonicus (Houttuyn)	15,946	9,482	68.2%	—
13 Carangoid Fish...	Carangidae sp.	14,718	29,075	—	49.4%
14 Mackerel	Cybium sp.	13,723	13,712	0.1%	—
15 Shark.....	Elasmobranchs	13,021	12,886	1 %	—
16 White Herring...	Ilisha elongata	11,605	10,647	9 %	—
17 Macau Sole	Cynoglossus macrolepidotus (Bleeker)	11,552	10,135	14 %	—
18 Melon Seed.....	Psenopsis anomala (Schlegel)	11,479	17,464	—	34.3%
19 Cuttle Fish.....	Sepia sp.	10,465	39,940	—	73.8%
20 Golden Sardine...	Saudinella aurita	618	27,097	-	97.7%

APPENDIX 9

HONG KONG MECHANIZED FISHING VESSELS AND CHANGES DURING 1955/56

	Type of Vessel	Total end of March 1955	Changes		Total end of March 1956
			Increase	Decrease	
Trawlers	British registered, deep sea trawlers	13	—	—	13
	Primitive & Japanese type deep sea trawlers	19	—	—	19
	Native type deep sea trawlers	47	7	1	53
	Modern type shrimp trawlers	1	—	—	1
	Primitive type shrimp trawlers	92	34	7	119
	Native type inshore trawlers	21	15	1	35
Liners	Native type deep sea long liners	50	4	3	51
	Native type inshore long liners	172	118	20	270
	Native type handliners	8	7	—	15
Seiners	Native type inshore purse seiners	237	60	16	281
	Ku Peng Teng	16	—	—	16
	Pa Teng	—	8	—	8
Misc.	Native type inshore gill netters	9	—	—	9
Collectors	Native type fish collectors	66	14	2	78
	Total	751	267	50	968

Except for one mechanized shrimp trawler which converted to motor trading, all the other decreases are accounted for by mechanized vessels reverting to sail.

DIESEL ENGINES SUPPLIED IN 1955/56

Engines	New Engines installed in fishing vessels	Old & reconditioned engines installed or already in vessels which joined the fleet	Total
British	92	83	175
U. S. A.	5	11	16
Japan	49	9	58
German	7	3	10
Denmark	1	—	1
Swedish	8	1	9
Total	162	107	269

(Two vessels with twin engines installed)

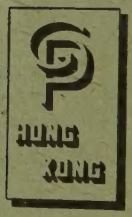
FISHING VESSELS & FISHERFOLK

Type of Junk	Aberdeen		Shaukiwan		Cheung Chau		Tai O		New Territories												Yaumati		Total	
									Tai Po		Tap Mun		Kat O		Stanley		Castle Peak		Sai Kung		Shataukok					
	Junks	Fishermen	Junks	Fishermen	Junks	Fishermen	Junks	Fishermen	Junks	Fishermen	Junks	Fishermen	Junks	Fishermen	Junks	Fishermen	Junks	Fishermen	Junks	Fishermen	Junks	Fishermen	Junks	Fishermen	Junks	Fishermen
Trawlers																								
Deep Sea Trawler	98*	1,960	134	2,680	115	2,300	—	—	—	—	—	—	—	—	—	—	20	400	2	40	—	—	—	—	369	7,380
Inshore Trawler	281	4,215	34	510	1	15	3	45	—	—	—	—	—	—	—	—	301	4,515	—	—	—	—	—	—	620	9,300
Shrimp Trawler	184	1,104	112	672	43	258	19	114	130	780	12	72	—	—	—	—	72	432	—	—	—	—	55	330	627	3,762
Liners																								
Big Long Liner	2	80	49	1,960	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51	2,040
Medium Long Liner	52	832	21	336	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51	2,040
Small Long Liner	284	1,704	158	948	67	402	—	—	2	12	—	—	15	90	—	—	—	—	5	80	—	—	2	32	80	1,280
Hand Liner	51	306	74	444	101	606	38	228	268	1,608	48	288	—	—	47	282	188	1,128	20	120	46	276	4	24	607	3,642
Seiners																							9	54	885	5,310
Ku Peng	83	664	—	—	150	1,200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	233	1,864
Pa Teng	—	—	—	—	34	952	5	140	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39	1,092
Purse Seiner	464	3,712	219	1,752	252	2,016	14	112	145	1,160	57	456	106	848	62	496	65	520	124	992	71	568	58	464	1,637	13,096
Gill Netters																								
Big Tail Junk	51	306	—	—	18	108	236	1,416	—	—	—	—	—	—	—	—	124	744	—	—	—	—	—	—	429	2,574
Hok Lo Teng	—	—	—	—	—	—	—	—	248	1,188	8	48	—	—	2	12	—	—	30	180	113	678	—	—	401	2,406
Fish Collectors	48	384	16	128	7	56	3	24	1	8	—	—	—	—	4	32	8	64	—	—	—	—	2	16	89	712
Miscellaneous	40	240	52	312	13	78	18	108	25	150	10	60	40	240	7	42	78	468	60	360	6	36	15	90	364	2,184
Total	1,638	15,507	869	9,742	801	7,991	336	2,187	819	5,206	135	924	161	1,178	122	864	902	8,547	263	1,904	240	1,582	145	1,010	6,431	56,642

* Includes 13 British registered (steel) trawlers and 19 Japanese-type wooden trawlers, all 32 of which are company-operated.

IMPORTS AND EXPORTS OF TIMBERS AND FUEL FOR YEAR ENDED 31st DECEMBER, 1955

CATEGORY	GROSS IMPORTS		GROSS EXPORTS		NET IMPORTS		Percentage by value of gross imports or exports from or to different sources or destinations	
	Hundred of Cu. ft.	Value $	Hundred of Cu. ft.	Value $	Hundred of Cu. ft.	Value $	Imports	Exports
TIMBER								
(A) ROUND:								
1 Teak	1,906	2,533,943	75	82,756	1,831	2,451,187	North Borneo (British) 75%	Macao 47%
2 Primary Hardwood	3,520	2,133,856	661	549,001	2,859	1,584,855	Thailand 8%	U. S. A. 22%
3 Secondary Hardwood	10,671	4,436,202	490	566,036	10,181	3,870,166	China (excluding Formosa)..... 6%	Australia 15%
4 Light Hardwood	49,425	14,451,978	1,789	611,721	47,636	13,840,257	Canada..... 3%	China (excluding Formosa)..... 3%
5 Soft Wood (Conifer)	71	58,709	54	29,881	17	28,828	Philippines 3%	Japan 3%
6 Timber for match making	185	86,359	—	—	185	86,359	U.S.A. 2%	United Kingdom..... 3%
6a Pols. Pilings & Posts	990	450,382	—	—	990	450,382	Malaya..... 2%	Africa S. 2%
(B) SAWN:							Other Sources... 1%	U. S. Oceania... 2%
7 Teak	5,211	7,492,898	109	186,344	5,102	7,306,554		Formosa 1%
8 Primary Hardwood	288	517,602	21	18,356	267	499,246		New Zealand ... 1%
9 Secondary Hardwood	279	337,123	805	780,667	—	—		Other Destinations 1%
10 Light Hardwood	8,842	3,490,557	2,021	1,797,215	6,821	1,693,342		
11 Soft Wood	10,234	5,461,593	121	78,933	10,113	5,382,660		
12 Timber for match making	—	—	—	—	—	—		
Total timber	91,622	41,451,202	6,146	4,700,910	86,002	37,193,836		
FUEL	Cwt.	Value $	Cwt.	Value $	Cwt.	Value $		
(A) Firewood	3,784,929	13,428,302	126,605	413,349	3,658,324	13,014,953	China (excluding Formosa)..... 53% Malaya..... 24% North Borneo ... 23%	Macao 100%
(B) Charcoal	824,647	8,555,652	46,485	475,268	778,162	8,080,384	Malaya..... 89% China (excluding Formosa)..... 10% North Borneo ... 1%	Macao 100%
Total fuel	4,609,576	21,983,954	173,090	888,617	4,436,486	21,095,337		



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